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NATIONAL COMMUNICATIONS FROM PARTIES INCLUDED IN ANNEX I TO THE CONVENTION

Report on national greenhouse gas inventory data from Annex I Parties for 1990 to 1999

Note by the secretariat

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I. INTRODUCTION

A. Mandate

1. In accordance with decisions 9/CP.2[1] and 3/CP.5 of the Conference of the Parties (COP), national inventory data on emissions by sources and removals by sinks are to be submitted by Parties included in Annex I to the Convention (Annex I Parties) by 15 April of each year. The submission of national inventory data for the years 1990 to 1999 was due by 15 April 2001. The Conference of the Parties, by its decision 6/CP.3, requested the secretariat to collect, process and publish, on a regular basis, national greenhouse gas (GHG) inventories submitted annually by Annex I Parties in accordance with decision 9/CP.2. By its decision 6/CP.5, the Conference of the Parties requested the secretariat to prepare documentation in support of the technical review of greenhouse gas inventories outlined in that decision.

B. Scope of the note

2. The latest available GHG data for 1990-1999, and data from earlier submissions for Annex I Parties that have not yet reported inventories this year, have been compiled in this document. It contains a brief description of the status of reporting of annual GHG emission inventories, highlighting the timeliness of reporting and completeness of the data reported. The tables contain data on GHG emissions and removals by 38 out of 40 Annex I Parties[2] as provided in the annual submissions of GHG inventories or national communications.

3. The aim of this document is twofold: it compiles GHG inventories submitted so far by Annex I Parties and second, it serves as an addendum to the synthesis and assessment report prepared in accordance with decision 6/CP.5.

II. STATUS OF REPORTING

4. The data in this document are compiled from the recent submissions of 32 Annex I Parties that have submitted their GHG inventory data due on 15 April 2001 (see table 1) as well as from previous annual inventories or national communications for six other Annex I Parties. As the guidelines for reporting national GHG inventories were revised by the COP at its fifth session, this is only the second time Annex I Parties have had to use the new guidelines for reporting. The guidelines, which include a common reporting format, provide for a more uniform and complete reporting of inventory data than the previous guidelines.

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[1] For the full texts of decisions adopted by the Conference of the Parties at its second, third and fifth sessions, see documents FCCC/CP/1996/15/Add.1, FCCC/CP/1997/7/Add.1 and FCCC/CP/1999/6/Add.1, respectively.

[2] Although Belarus and Croatia are listed in each table, no data is shown as neither Party has yet submitted an annual inventory or national communication.

5. Twenty-nine Parties have reported in full or partially using the common reporting format of the new guidelines (see table 1). Although reporting has not been complete or the guidelines fully adhered to, there has been a clear effort by Parties to meet the guidelines to the extent possible and reporting has improved in terms of completeness and timing of submissions.[1]

6. As not all Annex I Parties provided recent submissions, or did not include data for all years in their most recent submissions, data have been compiled for the period 1990-1999 from various sources. Table 2 below provides an indication of which inventory submissions or national communications were the source of data for the relevant years. As the information for these years for some Annex I Parties has been taken from various submissions, trends in emissions may not be consistent.

7. The data available from the various submissions are not always complete. In addition to not having data for all years, data were not always available for all gases or source and sink categories required in the guidelines. Where data were not available, the tables contain blank spaces.

Table 1. Dates of 2001 GHG inventory submissions

Australia	10 April 2001	**Italy**	17 April 2001
Austria	12 April 2001	**Japan**	31 July 2001
Belgium	12 June 2001	**Latvia**	11 April 2001
Bulgaria	17 April 2001	**Luxembourg**	13 April 2001
Canada	18 April 2001	**Monaco***	13 June 2001
Czech Republic	11 April 2001	**Netherlands**	13 April 2001
Denmark	11 April 2001	**New Zealand**	12 April 2001
Estonia	10 April 2001	**Norway**	9 April 2001
European Community*	11 April 2001	**Poland***	12 April 2001
Finland	9 April 2001	**Portugal**	11 April 2001
France	26 February 2001	**Slovakia**	23 April 2001
Germany	19 July 2001	**Spain**	9 April 2001
Greece	8 June 2001	**Sweden**	11 April 2001
Hungary	24 May 2001	**Switzerland**	11 April 2001
Iceland	17 April 2001	**United Kingdom**	11 April 2001
Ireland	15 May 2001	**United States of America**	10 April 2001

* Party did not report in the common reporting format.

[1] See document FCCC/SBSTA/2001/5 for more information on Annex I Parties' use of the UNFCCC reporting guidelines on annual inventories.

Table 2. Sources of GHG emissions data (by Party and type of submission)[a]

Party	Base year other than 1990	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Australia		INV01	INV00	[illegible]	INV01	[illegible]	[illegible]	[illegible]	INV00	INV00	INV01
Austria		INV01	INV01	INV01	INV01	[illegible]	[illegible]	[illegible]	INV01	INV01	INV01
Belgium		INV99	INV99	[illegible]	INV99	[illegible]	[illegible]	[illegible]	INV00	INV01	INV01
Bulgaria	INV01 (1988)	INV01	INV01	INV01	INV01	[illegible]	[illegible]	INV01	INV01	INV01	INV01
Canada		INV01	INV01	INV01	INV01	INV01	[illegible]	INV01	INV01	INV01	INV01
Czech Republic[b]		SC2 & INV99	SC2 & INV99	SC2 & INV99	SC2 & INV99	SC2 & INV99	SC2 & INV99	INV98 & INV99	INV99	INV00	INV01
Denmark		INV01	INV01	INV01	INV01	INV01	[illegible]	INV01	INV01	INV01	INV01
Estonia		SC2	SC2	SC2	SC2	SC2	SC2	SC2	INV98	INV00	INV01
European Community		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Finland		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
France		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Germany		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Greece		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Hungary	INV01 (1985-1987)	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Iceland		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Ireland		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Italy		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Japan		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Latvia		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Liechtenstein		RP199	no data	no data	no data	no data	no data	no data	no data	no data	no data
Lithuania		SC1	no data	no data	no data	no data	INV99	INV99	INV99	INV00	no data
Luxembourg		SC2	no data	no data	no data	SC2	SC2	no data	no data	no data	INV01
Monaco		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Netherlands		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
New Zealand		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Norway		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Poland	SC2 (1988)	SC2	INV00	SC2	INV00	SC2	INV00	INV00	INV00	INV00	INV01
Portugal		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Romania	SC2 (1989)	SC2	SC2	SC2	SC2	SC2	no data	no data	no data	no data	no data
Russian Federation		SC2	SC2	SC2	SC	SC2	INV00	INV00	no data	no data	no data
Slovakia		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Slovenia[c]	no data (1986)	SC1	no data	no data	no data	no data	no data	no data	no data	no data	no data
Spain		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Sweden		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Switzerland		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01
Ukraine[d]		INV99	INV99	INV99	INV99	INV99	INV99	INV99	INV99	INV99	no data
United Kingdom		INV01	INV01	INV01	[illegible]	[illegible]	[illegible]	[illegible]	INV01	INV01	INV01
United States of America		INV01	INV01	INV01	[illegible]	[illegible]	[illegible]	[illegible]	INV01	INV01	INV01

[a] This table indicates the source of GHG emissions data as well as whether data were available for specific years. However, it does not indicate whether the inventory submitted to the secretariat covers all gases, categories, CRF tables etc.

[b] The Czech Republic provided revised UNFCCC data for 1990 to 1996 in the inventory submission of 1998.

[c] A preliminary GHG inventory was submitted as part of the Initial national communication.

[d] Emissions of CO, NOX and NMVOC were not reported in the inventory submission of 1999, but were available in the NIR; national inventory experts will be asked to rectify this situation.

Tables

General notes

The tables below contain numerical data on GHG inventories for 38 Annex I Parties as submitted in annual GHG emission inventories or national communications. They provide data for 1990-1999 for individual Annex I Parties, although the degree of coverage varies. This is due to differences in the coverage of years in the annual inventory submissions of Parties, as well as to lack of information in some instances.

The tables provide inventory data on carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6), ozone precursors and sulphur dioxide (SO_2), and include information on international bunkers. Information on land-use change and forestry is included in aggregate estimates, and separately from other CO_2 estimates, recognizing the ongoing methodological work by the Intergovernmental Panel on Climate Change (IPCC) in this sector. To present information on HFCs, PFCs, SF_6 and aggregate greenhouse gases in a comparable manner the secretariat has used IPCC 1995 global warming potentials (GWPs) to present information in terms of CO_2 equivalents. The footnotes to the tables should be treated as an integral part of the tables.

Tables A.1 and A.2 contain information on aggregate emissions of all greenhouse gases combined (expressed as CO_2 equivalent) for the major source categories. Inventory data on the individual greenhouse gases are presented in tables A.3-A.19. As not all Annex I Parties provided data for 1999 (the most recent year included in this document), no totals or percentage contribution by sector are given for that year in tables A.1-A.9. The trends in total greenhouse gases and in emissions of the various gases, and for the most important sectors for 1990 to 1999, are given in tables B.1 to B.17. Emission estimates of the European Community are presented at the bottom of the tables as these estimates are reported by the European Community separately from those reported individually by the various Annex I Parties that are Member States of the European Community.

It should be noted that figures may differ slightly from those submitted to the secretariat as a result of rounding during data input and processing, corrections of typographical and calculation errors or omissions, and the presentation (for consistency and comparability) of subtotals and totals not provided in the annual inventory submissions, communications or other submissions.

Explanatory notes

Blanks in the tables signify an absence of quantitative information. The secretariat has chosen to leave the spaces blank in order not to complicate the reading of the tables.

The IPCC 1996 Revised Guidelines for National Greenhouse Gas Inventories are referred to in this document as the IPCC Guidelines, and the guidelines for the preparation of national communications by Parties included in Annex I (FCCC/CP/1999/7) as the UNFCCC guidelines. Categories of sources of GHG emissions or their sinks corresponding to the IPCC Guidelines or UNFCCC guidelines nomenclature are given in *italics*.

The following chemical symbols and abbreviations have been used:

CF_4	perfluoromethane
C_2F_6	perfluoroethane
C_3F_8	perfluoropropane
C_4F_{10}	perfluorobutane
C_6F_{14}	perfluorohexane
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
HFCs	hydrofluorocarbons
N_2O	nitrous oxide
NO_x	nitrogen oxides
NMVOCs	non-methane volatile organic compounds
PFCs	perfluorocarbons
SF_6	sulphur hexafluoride
SO_2	sulphur dioxide

The following units of mass have been used:

Gg	gigagram (10^9 grams)
Mg	megagram (10^6 grams)

The following other abbreviations have been used:

CRF	common reporting format
GHG	greenhouse gas
GWP	global warming potential
NC1	first national communication
NC2	second national communication
INV98	inventory submission 1998
INV99	inventory submission 1999
INV00	inventory submission 2000
INV01	inventory submission 2001
RPT95	report submitted in 1995
no data	data have not been provided

Table A.1. **Aggregate emissions and removals of all greenhouse gases[a] (CO_2 equivalent) by source/sink category, including and excluding land-use change and forestry, 1990 (Gigagrams and percentage of total by Party)**

	Fuel combustion		Fugitive fuel		Industrial processes		Agriculture		Other[b]		Total (excluding land-use change and forestry)[c]	Land-use change and forestry[d] (CO_2)	Total (including land-use change and forestry)[c]	Percentage increase or decrease in emissions with the inclusion of land-use change and forestry
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	(Gg)	(Gg)	(%)
											(A)	(B)	(C=A+B)	(B/A)*100
Australia	269 963	63.7	29 536	7.0	12 043	2.8	91 166	21.5	21 147	5.0	419 029	69 930	488 959	16.7
Austria	47 701	62.0	2 228	2.9	14 420	18.7	5 591	7.3	6 999	9.1	86 240	-9 215	57 025	-13.9
Belarus														
Belgium	106 605	78.1	917	0.7	12 775	9.4	11 379	8.3	4 787	3.5	136 463	-2 057	134 406	-1.5
Bulgaria[e]	100 401	63.9	5 430	3.5	10 841	6.9	23 514	15.0	16 903	10.8	157 090	-4 657	152 433	-3.0
Canada	434 468	71.6	37 928	6.2	52 949	8.7	58 885	9.7	22 953	3.8	536 839	-61 498	475 341	-11.5
Croatia														
Czech Republic	167 518	88.2	8 276	4.4	6 734	3.5	5 001	2.6	2 309	1.2	189 837	-2 281	187 556	-1.2
Denmark	52 658	75.3	503	0.7	1 046	1.5	14 309	20.5	1 434	2.0	68 994	-916	68 078	-1.3
Estonia	37 679	92.5			613	1.5	1 543	3.8	897	2.2	40 719	-11 317	29 402	-27.8
Finland	56 018	72.7	3 566	4.6	2 835	3.7	10 165	13.2	4 492	5.8	53 223	-23 798	29 425	-44.7
France	363 409	65.7	10 837	2.0	56 725	10.3	90 403	16.3	31 888	5.8	486 082	-59 617	426 385	-12.3
Germany	1 082 671	83.0	32 781	2.7	62 808	5.2	66 299	5.1	42 868	3.6	1 163 988	-33 719	1 130 269	-2.9
Greece	79 857	75.7	931	0.9	9 701	9.2	12 092	11.5	2 894	2.7	104 172	1 249	105 422	1.2
Hungary[f]	82 842	81.5	9 414	9.3	3 587	3.5	5 790	5.7			101 633	-3 097	98 536	-3.0
Iceland[g]	1 648	62.6					385	14.6			2 630		2 630	
Ireland	30 668	57.3	127	0.2	2 966	5.5	17 889	33.4	1 846	3.5	53 497	-5 020	48 477	-9.4
Italy	418 272	80.8	8 192	1.6	31 583	6.1	43 206	8.3	16 421	3.2	517 674	-20 221	497 454	-3.9

Japan	1 060 629	85.7	3 354	0.3	126 760	10.4	21 483	1.7	23 513	1.9	1 091 676	-83 882	1 007 794	-7.7
Latvia	23 509	75.8	1 117	3.6	163	1.8	5 332	17.2	401	1.6	31 025	-10 826	20 199	-34.9
Liechtenstein											260	-22	238	-8.5
Lithuania	37 737	73.2	548	1.1	2 643	5.1	7 143	13.9	3 460	6.8	51 548	-8 848	42 700	-17.2
Luxembourg	12 181	90.6	34	0.3	585	4.4	518	3.9	130	1.0	13 448	-295	13 153	-2.2
Monaco[a]	99	99.1							1	0.9	100		100	
Netherlands	160 889	74.1	4 386	2.0	20 732	9.6	17 481	8.1	13 577	6.3	206 578	-1 500	205 078	-0.7
New Zealand	22 815	31.2	1 179	1.6	2 934	4.1	42 851	58.6	3 230	4.4	50 932	-21 638	29 294	-42.5
Norway	26 969	51.8	2 163	4.2	13 752	26.4	5 013	9.6	4 132	7.9	37 215	-9 590	27 625	-25.8
Poland[b]	466 155	82.6	26 261	4.7	20 110	3.6	33 453	5.9	20 307	3.6	564 286	-34 746	529 540	-6.2
Portugal	41 009	63.4	265	0.4	4 743	7.3	11 969	18.5	6 659	10.3	60 650	3 994	64 644	6.6
Romania[c]	191 757	72.4	29 742	11.2	17 150	6.5	21 170	8.0	5 061	1.9	264 879	-2 925	261 954	-1.1
Russian Federation	2 308 494	75.9	424 000	13.9	88 525	2.9	168 260	5.5	50 783	1.7	2 998 767	-392 080	2 606 767	-13.1
Slovakia	56 341	78.0	1 430	2.0	4 459	6.2	7 860	10.9	2 169	3.0	72 258	-2 426	69 832	-3.4
Slovenia	13 594	70.8	1 061	5.5	641	3.3	2 357	12.2	1 601	8.3	19 212	-2 293	16 919	-11.9
Spain	211 169	69.0	4 875	1.6	23 452	7.7	53 241	17.4	13 331	4.3	272 780	-29 252	243 528	-10.7
Sweden	53 822	77.4	276	0.4	4 808	6.9	7 992	11.5	2 665	3.8	48 748	-20 292	28 456	-41.6
Switzerland	40 206	75.9	363	0.7	3 471	6.5	6 032	11.4	2 933	5.5	53 005	-3 188	49 817	-6.0
Ukraine	674 904	73.4	130 616	14.2	38 816	4.2	56 018	6.1	18 836	2.0	919 220	-52 107	867 113	-5.7
United Kingdom	564 437	76.1	40 796	5.5	57 839	7.8	52 914	7.1	25 896	3.5	727 503	8 791	736 294	1.2
United States of America	4 917 046	81.4	241 376	4.0	177 358	2.9	450 506	7.5	253 447	4.2	4 893 390	-1 059 900	3 834 490	-21.7
Total	14 136 128	85.8	1 064 509	6.5	893 025	5.4	1 427 206	8.7	629 277	3.8	16 476 512	-1 889 178	14 587 333	-11.5
European Community	3 197 907	76.0	110 708	2.6	307 312	7.3	415 458	9.9	175 695	4.2	4 207 080	-199 850	4 007 229	-4.8

[a] Aggregate emissions of CO_2, CH_4 and N_2O and HFCs, PFCs and SF_6 where reported (see table A.13), using 1995 IPCC global warming potentials.
[b] Includes *solvent use*, *waste*, *other* and CH_4 and N_2O from *land-use change and forestry*.
[c] Aggregate emissions of all greenhouse gases excluding CO_2 emissions and removals from *land-use change and forestry*.
[d] CO_2 estimates for *land-use change and forestry* as reported in accordance with the present IPCC Guidelines for National Greenhouse Gas Inventories (see table B.8).
[e] Aggregate emissions of all greenhouse gases including CO_2 emissions from *land-use change and forestry*.
[f] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).
[g] The Party did not provide any estimates from the *land-use change and forestry* sector in its national inventory.

Table A.2.

Aggregate emissions and removals of all greenhouse gases[a] (CO_2 equivalent) by source/sink category, including and excluding land-use change and forestry, 1999 (Gigagrams and percentage of total by Party)

	Fuel combustion		Fugitive fuel		Industrial processes		Agriculture		Other[b]		Total (excluding land-use change and forestry)[c]	Land-use change and forestry[d] (CO_2)	Total (including land-use change and forestry)[c]	Percentage increase or decrease in emissions with the inclusion of land-use change and forestry
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg) (A)	(Gg) (B)	(Gg) (C=A+B)	(%) (B/A)*100
Australia	333 726	68.2	30 839	6.3	9 651	2.0	93 850	19.2	21 025	4.3	488 087	40 768	528 855	8.4
Austria	51 780	65.4	2 777	3.5	13 752	17.4	4 958	6.3	5 958	7.5	69 965	-7 633	62 332	-10.9
Belarus														
Belgium	113 707	75.2	849	0.6	20 123	13.3	12 404	8.2	4 109	2.7	151 193	-1 845	149 348	-1.2
Bulgaria	47 049	60.6	2 705	3.5	4 859	6.3	18 032	23.2	5 052	6.5	70 943	-6 608	64 335	-9.3
Canada	507 962	72.7	52 775	7.6	50 718	7.3	60 730	8.7	26 434	3.8	669 549	-20 278	649 271	-3.0
Croatia														
Czech Republic	119 325	85.1	5 949	4.2	3 554	2.5	7 844	5.6	3 492	2.5	140 164	-3 401	136 763	-2.4
Denmark	56 330	77.0	1 240	1.7	2 337	3.2	12 043	16.5	1 223	1.7	71 262	-976	70 286	-1.4
Estonia	16 578	83.4	577	2.9	565	2.8	854	4.3	1 304	6.6	11 770	-8 107	3 663	-68.9
Finland	59 715	78.3	3 553	4.7	2 832	3.7	7 594	10.0	2 549	3.3	65 045	-10 821	54 224	-16.6
France	388 937	70.4	8 570	1.6	37 483	6.8	86 493	15.7	30 726	5.6	474 074	-68 995	405 079	-14.6
Germany	845 862	86.1	19 467	2.0	41 965	4.3	55 339	5.6	19 774	2.0	937 517	-33 430	904 087	-3.6
Greece	94 465	76.6	1 130	0.9	12 153	9.9	11 835	9.6	3 670	3.0	119 481	-194	119 286	-0.2
Hungary	57 315	66.2	7 952	9.2	3 893	4.5	13 201	15.3	4 185	4.8	81 218	-4 500	76 718	-5.5
Iceland[e]	1 971	59.6	0	0.0	891	26.9	383	11.6	64	1.9	3 110		3 110	0.0
Ireland	41 220	63.1	90	0.1	3 035	4.6	19 412	29.7	1 581	2.4	58 603	-6 734	51 869	-11.5
Italy	439 185	81.2	7 116	1.3	31 777	5.9	44 339	8.2	18 710	3.5	521 585	-16 099	505 485	-3.1

Japan[1]	1 157 007	88.5	2 777	0.2	94 509	7.2	19 206	1.5	33 612	2.6	1 268 540		1 268 540	0.0
Latvia	7 692	57.6	313	2.3	2 228	16.7	1 708	12.8	1 423	10.6	470	-10 665	-10 196	-2 271.5
Liechtenstein														
Lithuania														
Luxembourg	4 819	80.3	43	0.7	671	11.2	355	5.9	117	1.9	5 709	-295	5 414	-5.2
Monaco[1]	132	99.1							1	0.9	133		133	0.0
Netherlands	173 270	75.3	4 556	2.0	24 609	10.7	16 835	7.3	10 816	4.7	216 819	-1 700	215 119	-0.8
New Zealand	27 449	35.7	1 588	2.1	3 139	4.2	41 717	54.3	2 889	3.8	54 595	-22 318	32 277	-40.7
Norway	32 733	58.3	2 900	5.2	11 248	20.0	5 019	8.9	4 271	7.6	56 294	17 742	18 553	-48.9
Poland	322 318	80.5	16 450	4.1	14 541	3.6	27 940	7.0	19 011	4.7	356 752	43 506	400 278	12.2
Portugal	54 048	68.2	572	0.5	5 513	7.0	11 898	15.0	7 477	9.4	79 455	-4 692	69 763	-6.3
Romania														
Russian Federation														
Slovakia	41 241	79.6	1 297	2.5	3 704	7.2	3 732	7.2	1 822	3.5	49 077	-2 627	46 450	-5.4
Slovenia														
Spain	263 864	69.4	6 398	1.7	32 802	8.6	56 826	14.9	20 303	5.3	380 878	-29 252	311 622	-8.6
Sweden	54 425	77.0	302	0.4	6 107	8.6	7 600	10.8	2 258	3.2	45 586	-24 305	21 281	-53.3
Switzerland	41 943	78.5	337	0.6	2 844	5.3	5 388	10.1	2 983	5.5	48 737	4 226	44 511	8.7
Ukraine														
United Kingdom	520 677	81.6	24 271	3.8	25 388	4.0	50 613	7.9	16 915	2.7	629 667	4 732	634 399	0.8
United States of America	5 544 762	82.2	217 230	3.2	234 044	3.5	488 775	7.2	261 260	3.9	5 619 924	-990 400	4 629 524	-17.6
Total	11 321 510	90.1	424 425	3.3	701 073	5.5	1 186 917	9.4	535 204	4.2	12 681 016	-1 208 639	11 472 377	-9.5
European Community	3 160 791	78.3	80 641	2.0	252 849	6.3	396 976	9.8	146 159	3.6	4 037 417	-200 984	3 836 434	-5.0

[1] Aggregate emissions of CO_2, CH_4 and N_2O, and HFCs, PFCs and SF_6, where reported (see table A/13), using 1995 IPCC global warming potentials.
Includes *solvent use*, *waste*, *other* and CH_4 and N_2O from *land-use change and forestry*.
[2] Aggregate emissions of all greenhouse gases excluding CO_2 emissions from *land-use change and forestry*.
[3] CO_2 estimates for *land-use change and forestry* as reported in accordance with the present IPCC Guidelines for National Greenhouse Gas Inventories (see table B.8).
[4] Aggregate emissions of all greenhouse gases including CO_2 emissions from *land-use change and forestry*.
[5] The Party did not provide any estimates from the *land-use change and forestry* sector in its national inventory.

Table A.3.

Anthropogenic CO_2 emissions by source category, excluding land-use change and forestry,[a] 1990 (Gigagrams and percentage of total by Party)

	Energy				Industrial processes		Waste		Other[c]		Total
	Fuel combustion[b]		Fugitive fuel								
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)
Australia	265 220	95.2	6726	2.4	6 654	2.4					278 600
Austria	46 685	75.1	2139	3.4	12 747	20.5	38	0.1	523	0.8	62 132
Belarus											0
Belgium	104 190	91.4			9 140	8.0	667	0.6			113 997
Bulgaria[c]	95 495	91.9			8 361	8.1					103 856
Canada	421 613	89.4	9833	2.1	32 608	6.9	254	0.1	7 255	1.5	471 563
Croatia											0
Czech Republic	160 073	96.7			5 417	3.3					165 490
Denmark	51 676	97.4	240	0.5	1 086	1.9			124	0.2	53 045
Estonia	37 184	98.4			613	1.6					37 797
Finland	53 893	86.3	3542	5.7	1 176	1.9			3 855	6.2	62 466
France	355 945	92.3	4306	1.1	21 254	5.5	2 133	0.6	1 852	0.5	385 490
Germany	986 833	100.0			27 668	2.8					986 860
Greece	76 474	90.7			7 686	9.1			186	0.2	84 350
Hungary[c]	80 089	95.7			3 587	4.3					83 676
Iceland	1 631	76.1			391	18.2	40	1.8			2 144
Ireland	29 578	93.7			1 931	6.1			67	0.2	31 575
Italy	408 019	93.2	999	0.2	24 720	5.6	912	0.2	3 100	0.7	437 750
Japan	1 052 782	93.6			58 795	5.2	12 773	1.1			1 124 350
Latvia	22 963	97.6			563	2.4					23 526
Liechtenstein											208

Lithuania	37 332	94.4			2 203	5.6					39 535
Luxembourg	12 133	95.2			567	4.6	20	0.2	12	0.1	12 750
Monaco	98	100.0									98
Netherlands	158 536	98.4	625	0.4	1 902	1.2	111	0.1			161 173
NewZealand	22 398	88.2	615	2.4	2 386	9.4					25 399
Norway	26 367	75.2	1870	5.3	6 434	18.4	37	0.1	361	1.0	35 079
Poland[2]	462 998	97.1	53		13 574	2.8					476 625
Portugal	39 558	89.6	163	0.4	4 133	9.4	9		271	0.6	44 135
Romania[2]	185 575	95.3			9 244	4.7	7				194 826
Russian Federation	2 298 980	96.9	27100	1.1	46 700	2.0					2 372 300
Slovakia	55 724	93.5			3 882	6.5					59 606
Slovenia	13 294	95.4			641	4.6					13 935
Spain	205 674	91.0	1536	0.7	16 667	7.4	992	0.4	1 188	0.5	226 057
Sweden	51 279	93.1	275	0.5	3 430	6.2			111	0.2	55 074
Switzerland	39 673	89.3	56	0.1	3 363	7.6	1 317	3.0			44 409
Ukraine	672 975	95.5			31 717	4.5					703 792
United Kingdom	556 554	95.4	12138	2.1	14 123	2.4	663	0.1			583 479
United States of America	4 835 680	98.4	5121	0.1	54 579	1.1	17 552	0.4			4 912 947
Total	13 924 196		77337		439 466		37 545		18 904		14 470 092
European Community	3 133 575	94.2	25 963	0.8	149 000	4.5	5 544	0.2	11 288	0.3	3 325 370

[1] Emissions and removals from the *land-use change and forestry* sector were excluded from this table for comparison and consistency purposes. They are however presented in tables A.1, A.7 and B.8.
[2] For further details on *fuel combustion* see table A.5.
Includes *solvent use* and *agriculture*.
In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).

Table A.4. **Anthropogenic CO_2 emissions by source category, excluding land-use change and forestry,[a] 1999 (Gigagrams and percentage of total by Party)**

	Energy				Industrial processes		Waste		Other[c]		Total
	Fuel combustion[b]		Fugitive fuel								
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)
Australia	326 378	95.8	6 482	1.9	7 898	2.3	18				340 776
Austria	50 658	77.0	2 658	4.0	11 944	18.2	123	0.2	396	0.6	65 778
Belarus											
Belgium	111 175	87.9			14 531	11.5	726	0.6	58		126 491
Bulgaria	44 513	91.9			3 927	8.1					48 440
Canada	491 410	90.1	14 395	2.6	39 391	7.2	280	0.1	177		545 652
Croatia											
Czech Republic	117 501	97.0	537	0.4	2 362	2.0	357	0.3	336	0.3	121 093
Denmark	54 561	95.8	900	1.6	1 402	2.5			113	0.2	56 976
Estonia	16 425	96.7			565	3.3					16 989
Finland	56 781	88.5	3 524	5.5	1 114	1.7			2 766	4.3	64 186
France	379 591	93.8	4 006	1.0	17 194	4.2	2 287	0.6	1 617	0.4	404 695
Germany	832 036	96.9			26 475	3.1					858 511
Greece	90 471	91.9			7 813	7.9			168	0.2	98 452
Hungary	56 490	94.0			2 709	4.5	885	1.5	32	0.1	60 117
Iceland	1 930	70.5			656	24.0	18	0.7	133	4.9	2 737
Ireland	39 603	94.5			2 222	5.3			62	0.1	41 887
Italy	429 759	94.1	1 194	0.3	21 538	4.7	952	0.2	3 089	0.7	456 533
Japan	1 147 945	93.7			53 233	4.3	23 802	1.9			1 224 980
Latvia	7 385	100.0			161						7 385
Liechtenstein											
Lithuania											
Luxembourg	4 740	87.3			671	12.3	16	0.3	5	0.1	5 432
Monaco	129	100.0									129

Netherlands	170 619	98.0	1 527	0.9	1 784	1.0	184	0.1	11		174 126
New Zealand	26 984	88.4	672	2.2	2 869	9.4					30 523
Norway	31 728	76.2	2 394	5.8	7 218	17.3	39	0.1	266	0.6	41 650
Poland	318 963	96.7	125		10 609	3.2					329 697
Portugal	52 449	90.6	286	0.5	4 747	8.2	127	0.2	279	0.5	57 883
Romania											
Russian Federation											
Slovakia	40 753	90.9			3 539	7.9					44 875
Slovenia											
Spain	256 801	98.4	1 809	0.7	20 297	7.8	662	0.3	1 491	0.6	260 965
Sweden	51 722	91.6	300	0.5	4 325	7.7			111	0.2	56 458
Switzerland	41 104	91.7	77	0.2	2 246	5.0	1 407	3.1			44 826
Ukraine											
United Kingdom	509 917	35.9	8 132	1.5	13 480	2.5					531 529
United States of America	5 453 068	98.1	11 701	0.2	67 401	1.2	25 960	0.5			5 558 150
Total	11 213 640		60 726		354 326		57 842		11 110		11 677 919
European Community	3 089 406	94.5	24 337	0.7	142 214	4.3	4 388	0.1	10 174	0.3	3 270 520

1 Emissions and removals from the *land-use change and forestry* sector were excluded from this table for comparison and consistency purposes. They are however presented in tables A 2, A 8 and B 8.
For further details on *fuel combustion* see table A 6.
Includes *solvent use* and *agriculture*.

Table A.5. **Anthropogenic CO_2 emissions from fuel combustion, 1990 (Gigagrams and percentage of total by Party)**

	Energy industries		Industry		Commercial, institutional, residential, agriculture, forestry, fishing		Transport		Other[a]		Total
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)
Australia	141 807	53.5	50 029	18.9	12 486	4.7	59 219	22.3	1 680	0.6	265 220
Austria	12 377	26.5	7 434	15.9	13 305	28.5	13 570	29.1			46 685
Belarus											
Belgium	31 896	30.6	25 758	24.7	25 967	24.9	20 569	19.7			104 190
Bulgaria[b]	37 823	39.6	35 756	37.4	7 612	8.0	12 639	13.2	1 666	1.7	95 495
Canada	144 277	34.2	62 090	14.7	69 415	16.5	145 831	34.6			421 613
Croatia											
Czech Republic	94 090	58.8	23 104	14.4	35 948	22.5	7 959	5.0			160 073
Denmark	26 216	50.7	6 040	11.7	8 945	17.3	10 356	20.0	119	0.2	51 676
Estonia	28 461	76.5	2 897	7.8	3 169	8.5	2 656	7.1			37 184
Finland	18 517	34.4	14 358	26.6	7 571	14.0	12 475	23.1	972	1.8	53 893
France	65 495	18.4	76 919	21.6	94 375	26.5	119 156	33.5			355 945
Germany	412 896	41.8	196 457	19.9	203 439	20.6	162 281	16.4	11 760	1.2	986 833
Greece	43 302	56.6	9 792	12.8	5 341	7.0	18 039	23.6			76 474
Hungary[b]	36 928	46.1	10 893	13.6	23 174	28.9	7 741	9.7	1 353	1.7	80 089
Iceland	4	0.3	200	12.3	704	43.2	721	44.2	2	0.1	1 631
Ireland	11 057	37.4	3 833	13.0	9 726	32.9	4 961	16.8			29 577
Italy	142 927	35.0	86 908	21.3	75 914	18.6	101 769	24.9	501	0.1	408 019
Japan	338 908	32.2	339 227	32.2	158 233	15.0	204 665	19.4	11 749	1.1	1 052 782
Latvia	8 288	36.1	2 683	11.7	5 956	25.9	6 011	26.2	25	0.1	22 963
Liechtenstein											
Lithuania	16 425	44.0	5 396	14.5	6 810	18.2	5 791	15.5	2 910	7.8	37 332
Luxembourg	1 883	15.5	6 353	52.4	1 272	10.5	2 625	21.6			12 133
Monaco	28	28.4			29	30.2	40	41.4			98

Netherlands	52 117	32.9	41 881	26.4	34 320	21.6	29 095	18.4	1 122	0.7	158 536
New Zealand	6 080	27.1	4 812	21.5	2 843	12.7	8 660	38.7			22 398
Norway	7 395	28.0	3 098	11.8	4 339	16.5	11 077	42.0	457	1.7	26 366
Poland[b]	260 537	56.3	60 900	13.2	111 229	24.0	28 238	6.1	2 094	0.5	462 998
Portugal	15 910	40.2	8 797	22.2	3 621	9.2	11 221	28.4	8	0.02	39 558
Romania[b]	89 214	48.1	56 678	30.5	28 274	15.2	7 893	4.3	3 517	1.9	185 575
Russian Federation											2 298 900
Slovakia	50 654	90.9					5 070	9.1			55 724
Slovenia	6 483	48.8	2 488	18.7	1 144	8.6	3 179	23.9			13 294
Spain	74 783	36.4	48 817	23.7	24 070	11.7	58 004	28.2			205 673
Sweden	10 170	19.8	11 615	22.7	10 673	20.8	18 736	36.5	84	0.2	51 278
Switzerland	891	2.2	5 237	13.2	18 631	47.0	14 144	35.7	770	1.9	39 673
Ukraine											672 075
United Kingdom	228 089	41.0	94 578	17.0	112 041	20.1	116 581	20.9	5 265	0.9	556 554
United States of America[c]	1 757 344	36.3	1 023 471	21.2	549 374	11.4	1 422 585	29.4	82 915	1.7	4 835 689
Total[d]	4 173 271	38.1	2 328 500	21.3	1 669 953	15.2	2 653 557	24.2	128 968	1.2	13 924 196
European Community	1 147 030	36.6	638 446	20.4	630 585	20.1	697 683	22.3	19 832	0.6	3 133 576

[a] All remaining emissions from non-specific fuel combustion including emissions from military fuel use.
In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).
[c] *Fuel combustion* emissions from territories of the United States of America are included under *other*.
[d] The percentage of the total accounted for by each category has been calculated on the basis of the overall total excluding the Russian Federation and Ukraine (10 953 222 Gg) since data for the individual categories were not provided. However, the total for all the Parties given in the last column (13 924 196 Gg) does include the Russian Federation and Ukraine.

Table A.6. **Anthropogenic CO_2 emissions from fuel combustion, 1999 (Gigagrams and percentage of total by Party)**

	Energy industries		Industry		Commercial, institutional, residential, agriculture, forestry, fishing		Transport		Other*		Total
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)
Australia	188 071	57.6	51 661	15.8	14 821	4.5	69 503	21.3	2 323	0.7	326 378
Austria	11 373	22.5	8 630	17.0	13 011	25.7	17 643	34.8			50 658
Belarus											
Belgium	26 444	23.8	30 478	27.4	31 643	28.5	22 611	20.3			111 175
Bulgaria	26 322	59.1	9 488	21.3	2 491	5.6	6 212	14.0			44 513
Canada	180 047	36.6	60 137	12.2	71 894	14.6	179 332	36.5			491 410
Croatia											
Czech Republic	53 848	45.8	34 156	29.1	16 211	13.8	12 016	10.2	1 270	1.1	117 501
Denmark	28 237	51.8	6 121	11.2	7 865	14.4	12 156	22.3	182	0.3	54 561
Estonia	13 478	82.1	660	4.0	1 083	6.6	1 204	7.3			16 425
Finland	21 029	37.0	15 844	27.9	6 369	11.2	12 734	22.4	805	1.4	56 781
France	61 389	16.2	77 213	20.3	102 167	26.9	138 822	36.6			379 591
Germany	329 754	39.6	139 028	16.7	174 402	21.0	186 110	22.4	2 742	0.3	832 036
Greece	50 220	55.5	9 406	10.4	7 938	8.8	22 908	25.3			90 471
Hungary	23 614	41.8	9 924	17.6	13 385	23.7	9 568	16.9			56 490
Iceland	3	0.2	305	15.8	798	41.3	819	42.4	5	0.3	1 930
Ireland	15 728	39.7	4 238	10.7	9 903	25.0	9 734	24.6			39 603
Italy	146 563	34.1	80 484	18.7	81 345	18.9	121 165	28.2	203	0.05	429 759
Japan	371 437	32.4	357 939	31.2	165 624	14.4	253 670	22.1	-726	-0.1	1 147 945
Latvia	3 116	42.2	1 146	15.5	978	13.2	2 087	28.3	57	0.8	7 385
Liechtenstein											
Lithuania											
Luxembourg	103	2.2	1 785	37.7	1 515	32.0	1 337	28.2			4 740

Monaco	40	31.4			39	30.5	49	38.1			129
Netherlands	57 041	33.4	43 549	25.5	35 301	20.7	34 700	20.3	28	0.02	170 619
New Zealand	6 629	24.6	5 826	21.6	2 800	10.4	11 729	43.5			26 984
Norway	9 661	30.4	3 879	12.1	3 874	12.2	13 957	44.0	396	1.2	31 728
Poland	180 001	56.4	53 271	16.7	54 011	16.9	31 382	9.8	298	0.1	318 963
Portugal	18 160	34.6	10 354	19.7	5 285	10.1	18 650	35.6			52 449
Romania											
Russian Federation											
Slovakia	29 215	71.6			6 748	16.5	4 821	11.8			40 783
Slovenia											
Spain	88 576	34.5	54 798	21.3	29 506	11.5	83 922	32.7			256 801
Sweden	11 129	21.5	11 991	23.2	8 692	16.8	19 880	38.4	25	0.05	51 722
Switzerland	1 126	2.7	5 499	13.4	18 437	44.9	15 316	37.3	727	1.8	41 104
Ukraine											
United Kingdom	179 116	35.1	88 608	17.4	117 421	23.0	121 576	23.8	3 136	0.6	509 917
United States of America[b]	1 953 353	35.8	1 155 610	21.2	577 133	10.6	1 677 714	30.8	89 279	1.6	5 453 088
Total	4 084 822		2 332 047		1 582 690		3 113 332		100 750		11 213 640
European Community	1 044 485	33.8	581 506	18.8	631 319	20.4	824 974	26.7	7 121	0.2	3 089 405

[a] All remaining emissions from non-specific fuel combustion including emissions from military fuel use.
[b] *Fuel combustion* emissions from territories of the United States of America are included under *Other*.

Table A.7. Anthropogenic CO_2 emissions and removals from land-use change and forestry[a], 1990 (Gigagrams)

	Changes in forest and other woody biomass stocks	Forest and grassland conversion	Abandonment of managed lands	CO_2 emissions and removals from soil	Other	Total
Australia	-24 598	98 752		4 224		69 929
Austria	-9 215					-9 215
Belarus						
Belgium	-2 057					-2 057
Bulgaria	-4 657					-4 657
Canada[b]	-68 069	1 419	-3 245	3 525	4 872	-61 498
Croatia						
Czech Republic	-2 281					-2 281
Denmark	-916					-916
Estonia	-9 428	538	2 427			-11 317
Finland	-23 798					-23 798
France	-75 330	11 710	-48	4 051		-59 617
Germany	-33 719					-33 719
Greece	-173	1 423				1 249
Hungary	-3 097					-3 097
Iceland						
Ireland	-5 381			361		-5 020
Italy	-25 107	2 152	-74	2 808		-20 221
Japan	-84 461	579				-83 882
Latvia	-10 960			134		-10 826
Liechtenstein						
Lithuania	-10 375	2 803	-1 276			-8 848
Luxembourg	-295					-295
Monaco						
Netherlands	-1 500					-1 500

New Zealand	-22 307	569				-21 638
Norway	-9 590					-9 590
Poland	-24 990	959	-10 715			-34 746
Portugal	-2 082	-1 912				-3 994
Romania	-2 925					-2 925
Russian Federation	-392 080					-392 080
Slovakia	-401	141	-1 352	-814		-2 426
Slovenia	-3 072	1 480	-702			-2 294
Spain	-29 252					-29 252
Sweden	-24 100			3 808		-20 292
Switzerland	-3 188					-3 188
Ukraine[e]						-52 107
United Kingdom[f]	-7 304			13 287	2 808	8 791
United States of America[g]	-750 200			-291 980	-17 800	-1 059 900
Total	-1 666 828	120 712	-19 838	-268 964	-10 120	-1 845 038
European Community	-240 229	-13 377	-122	24 315	2 808	-199 851

[a] In this table negative values indicate net removal of CO_2 from the respective category.
[b] *Other* includes emissions from anthropogenic fires outside the wood production forest.
[c] Party only reported a total for the land-use change and forestry sector.
[d] est and grassland conversion includes *abandonment of managed lands*.
[e] *Other* includes emissions from changes in crop biomass, peat extraction, lowland drainage, and upland drainage.
[f] *Other* includes landfilled yard trimmings.

Table A.8. Anthropogenic CO_2 emissions and removals from land-use change and forestry[a], 1999 (Gigagrams)

	Changes in forest and other woody biomass stocks	Forest and grassland conversion	Abandonment of managed lands	CO_2 emissions and removals from soil	Other	Total
Australia	23 069	68 060		4 224		40 768
Austria	-7 633					-7 633
Belarus						
Belgium	-1 845					-1 845
Bulgaria	-6 608					-6 608
Canada[b]	-30 942	4 154	-4 103	5 262	5 351	-20 278
Croatia						
Czech Republic	-3 401					-3 401
Denmark	-976					-976
Estonia	-6 493	35	-2 296	646		-8 107
Finland	-10 821					-10 821
France	-84 861	12 540	-48	3 374		-68 995
Germany	-33 430					-33 430
Greece	-19	552		-339		194
Hungary	-6 191	1 488		203		-4 500
Iceland						
Ireland	-7 097			362		-6 734
Italy	-25 315	905	-154	8 374		-16 099
Japan						
Latvia	-10 758			93		-10 665
Liechtenstein						
Lithuania						
Luxembourg	-295					-295
Monaco						
Netherlands	-1 700					-1 700

New Zealand	-23 249	1 125				-22 118
Norway	-17 742					-17 742
Poland	-39 767	32		-3 749		-43 548
Portugal	-2 758	1 934				-4 692
Romania						
Russian Federation						
Slovakia	-889	265	-1 415	-869		-2 627
Slovenia						
Spain	-29 252					-29 252
Sweden	-28 100			-1 795		-24 305
Switzerland	-4 226					-4 226
Ukraine						
United Kingdom	-8 122			10 346	2 508	4 732
United States of America[3]	-720 900			261 800	7 700	-990 400
European Community	-238 871	12 153	202	26 788	852	-200 984

[a] In this table negative values indicate net removal of CO_2 from the respective category.

[b] *Other* includes emissions from anthropogenic fires outside the wood production forest.

[c] *Other* includes emissions from changes in crop biomass, peat extraction, lowland drainage, and upland drainage.

[d] *Other* includes landfilled yard trimmings.

Table A.9. **Anthropogenic CH_4 emissions by source category, 1990 (Gigagrams and percentage of total by Party)**

	Energy				Agriculture				Waste				
	Fuel combustion		Fugitive fuel		Livestock[a]		Other[b]				Other[c]		Total
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)
Australia	110	2.0	1 085	19.4	3 140	56.1	293	5.2	708	12.7	262	4.7	5 597
Austria	20	3.8	4	0.8	182	33.8	36	6.6	295	54.9	0.1	0.03	538
Belarus													
Belgium	9	1.5	35	5.8	367	59.9	15	2.4	174	28.4	13	2.1	612
Bulgaria[d]	8	0.6	259	19.4	265	19.9	8	0.6	791	59.3	3	0.2	1 334
Canada	213	6.1	1 338	38.3	980	28.0			900	25.7	66	1.9	3 498
Croatia													
Czech Republic	59	7.6	394	50.6	204	26.2			105	13.5	16	2.1	779
Denmark	11	3.9	12	4.5	193	69.2			62	22.4			279
Estonia[e]	3	2.5			60	57.2			42	40.3	0.3	0.3	105
Finland	19	6.6	1	0.4	96	32.9			175	59.9	0.4	0.1	292
France	173	5.6	311	10.0	1 600	51.5	31	1.0	892	28.7	102	3.3	3 109
Germany	214	3.8	1 561	28.0	1 878	33.7	24	0.4	1 894	34.0			5 571
Greece	15	3.3	44	9.8	165	36.7	98	21.7	122	27.1	6	1.3	450
Hungary[d]	8	1.2	448	67.5	205	30.8	4	0.6					664
Iceland	0.2	1.6			12	84.9			2	13.6			14
Ireland	6	1.0	6	1.0	514	84.1			85	13.9			611
Italy	69	3.6	343	17.9	838	43.8	74	3.9	577	30.1	13	0.7	1 915
Japan	89	6.2	160	11.0	380	26.2	378	26.1	394	27.2	51	3.5	1 449
Latvia	10	5.4	53	27.4	111	57.3			19	10.0	0.002	0.001	194
Liechtenstein													1
Lithuania	5	1.4	26	6.9	181	47.8			166	43.8	0.2	0.1	378
Luxembourg	1	3.2	2	6.8	18	73.9			4	16.1			24
Monaco	0.03	56.3							0.02	43.7			0.05

Netherlands	35	2.7	79	13.9	505	39.1			568	44.0	5	0.4	1 293
New Zealand	11	0.6	27	1.6	1 492	88.0	0.01	0.0	143	8.5	4	0.3	1 677
Norway	14	4.4	14	4.4	101	32.5			182	58.4	1	0.3	312
Poland[d]	47	1.5	1 248	39.7	862	27.4	1	0.03	966	30.8	17	0.5	3 141
Portugal	24	3.9	5	0.8	288	47.0	13	2.1	283	46.2	0.4	0.1	613
Romania[d]	50	2.1	1 416	60.1	600	25.5	34	1.5	241	10.2	16	0.7	2 357
Russian Federation	200	0.8	18 900	71.3	4 930	18.6	130	0.5	1 940	7.3	400	1.5	26 500
Slovakia	17	5.4	68	21.1	135	41.9			98	30.6	3	1.0	322
Slovenia	7	3.8	51	28.7	44	24.8	0.1	0.1	76	42.9	1	0.3	176
Spain	58	3.5	158	9.5	924	55.9	15	0.9	496	30.0	3	0.2	1 654
Sweden	37	11.4	0.003	0.0	165	51.0			122	37.5	0.2	0.1	324
Switzerland	7	3.0	15	6.0	151	62.4			69	28.4	0.4	0.2	242
Ukraine[e]	36	0.4	6 220	66.2	2 254	24.0			892	9.5	0.2	0.0	9 402
United Kingdom	120	3.3	1 360	37.1	1 025	27.9	13	0.3	1 150	31.3	3	0.1	3 670
United States of America	641	2.1	11 250	36.7	7 422	24.2	440	1.4	10 879	35.4	57	0.2	30 689
Total	2 345	2.1	46 992	42.8	29 975	27.3	1 606	1.5	25514	23.2	1 043	1.0	109 787
European Community	811	3.9	4 021	19.2	8 758	41.8	319	1.5	6 901	32.9	146	0.7	20 955

[a] Includes *enteric fermentation* and *manure management*.
[b] Includes *rice cultivation, agricultural soils, prescribed burning of savannas* and *field burning of agricultural residues*.
[c] Includes *industrial processes, solvent use* and *land-use change and forestry*.
[d] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).
[e] Total emissions from agriculture are reported under livestock since emissions were not further disaggregated by the Party.

Table A.10. **Anthropogenic CH_4 emissions by source category, 1999 (Gigagrams and percentage of total by Party)**

	Energy				Agriculture				Waste				
	Fuel combustion		Fugitive fuel		Livestock [a]		Other[b]				Other[c]		Total
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)
Australia	115	2.1	1 159	20.7	2 955	52.7	404	7.2	761	13.6	210	3.7	5 603
Austria	13	2.9	6	1.2	153	33.6	35	7.7	248	54.5	0.1	0	454
Belarus													
Belgium	12	2.4	40	7.7	328	62.8	7	1.3	129	24.6	12	2.2	523
Bulgaria	4	0.8	129	26.7	113	23.4	2	0.4	233	48.1	3	0.5	483
Canada	249	5.8	1 828	42.7	1 090	25.5			1 060	24.7	57	1.3	4 284
Croatia													
Czech Republic	21	4.1	258	49.9	121	23.3			111	21.5	7	1.3	517
Denmark	38	11.8	16	5.9	168	62.6			53	19.7			269
Estonia	5	4.4	28	22.8	26	21.2			62	51.6			121
Finland	22	11.9	1	0.7	84	44.9			79	42.1	1	0.4	187
France	154	5.4	217	7.6	1 504	53.0	31	1.1	831	29.3	103	3.6	2 841
Germany	81	2.5	927	28.3	1 443	44.1	26	0.8	794	24.3			3 271
Greece	21	4.1	54	10.5	172	33.6	100	19.4	165	32.0	2	0.4	514
Hungary	32	4.7	379	55.4	114	16.7	2	0.2	155	22.7	1	0.1	683
Iceland	0.2	1.3			11	82.8			2	15.9			14
Ireland	5	0.8	4	0.7	552	87.1			72	11.4			634
Italy	85	4.3	282	14.4	827	42.1	76	3.9	687	35.0	8	0.4	1 965
Japan	58	4.5	132	10.3	355	27.6	327	25.4	368	28.6	48	3.7	1 287
Latvia	10	8.0	15	12.4	31	26.1			64	53.5			120
Liechtenstein													
Lithuania													
Luxembourg	1	4.0	2	9.0	17	73.6			3	13.4			23
Monaco	0.04	60.2							0	39.8			0

Netherlands	30	2.9	144	14.0	423	40.9			432	41.8	4	0.4	1 034
New Zealand	11	0.7	44	2.7	1 416	88.5	0.1	0	124	7.8	6	0.4	1 600
Norway	15	4.3	24	7.0	110	32.6			188	55.9	1	0.2	337
Poland	50	2.2	777	34.5	508	22.6	1	0.1	905	40.2	8	0.4	2 250
Portugal	20	3.3	4	0.7	258	42.7	9	1.5	313	51.8	0.3	0.1	604
Romania													
Russian Federation													
Slovakia	9	4.1	62	27.9	64	28.9			86	39.0	1	0.3	221
Slovenia													
Spain	50	2.3	217	10.1	1 022	47.7	18	0.8	835	38.9	4	0.2	2 145
Sweden	30	10.3	0	0.0	161	54.8			102	34.8	0.4	0.1	294
Switzerland	6	2.6	12	5.7	135	62.4			63	29.0	0.4	0.2	216
Ukraine													
United Kingdom	109	4.1	766	29.1	1 002	38.1			752	28.6	3	0.1	2 631
United States of America	601	2.9	9 787	33.2	7 695	26.1	537	1.8	10 803	36.6	80	0.3	29 504
European Community	661	3.8	2 676	15.3	8 123	46.6	309	1.8	5 549	31.8	127	0.7	17 445

[1] Includes *enteric fermentation* and *manure management*.
[2] Includes *rice cultivation*, *agricultural soils*, *prescribed burning of savannas* and *field burning of agricultural residues*.
[3] Includes *industrial processes*, *solvent use* and *land-use change and forestry*.

Table A.11. **Anthropogenic N_2O emissions by source category, 1990 (Gigagrams and percentage of total by Party)**

	Energy				Industrial processes		Agriculture		Waste				
	Transport		Other[a]								Other[b]		Total
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)
Australia	5.3	7.1	2.7	3.6	1.6	2.2	61.5	83.3			2.7	3.7	73.8
Austria	1.0	16.0	0.8	12.9	0.6	9.1	3.3	50.4	0.01	0.1	0.8	11.4	6.6
Belarus													
Belgium	0.6	2.1	7.1	22.9	11.5	37.1	10.9	35.1	0.1	0.3	0.8	2.6	31.0
Bulgaria[c]	0.2	0.3	15.0	18.5	7.8	9.6	57.4	70.5	0.9	1.1			81.4
Canada	20.6	12.0	6.4	3.7	37.1	21.6	100.1	58.2	3.0	1.7	4.8	2.8	172.0
Croatia													
Czech Republic	0.8	3.1	19.2	74.4	3.3	12.8	2.3	8.9			0.2	0.8	25.8
Denmark	0.5	1.3	2.0	5.6			33.1	93.2					35.5
Estonia	0.04	1.7	1.4	60.0			0.9	39.1					2.3
Finland	2.0	7.5	3.5	12.9	5.1	19.0	15.9	58.6	0.4	1.3	0.2	0.7	27.1
France	3.9	1.3	8.5	2.8	89.6	29.3	181.1	59.2	3.1	1.0	19.7	6.4	305.9
Germany	10.3	4.8	26.3	12.3	82.0	38.4	85.0	39.8	4.0	1.9	6.0	2.8	213.6
Greece	1.7	5.0	8.2	24.6	2.3	6.9	21.2	63.3			0.1	0.2	33.5
Hungary[c,d]			8.4	64.7			4.6	35.3					12.9
Iceland	0.02	3.3			0.2	25.2	0.4	68.3					0.6
Ireland	0.3	1.0	2.8	9.6	3.3	11.4	22.9	78.0					29.3
Italy	5.6	4.4	22.8	17.8	21.8	17.0	77.6	60.5	0.4	0.3	0.1	0.0	128.1
Japan	12.9	19.3	6.3	9.5	23.9	35.7	18.0	26.9	4.9	7.3	0.9	1.4	67.0
Latvia	0.9	7.8	0.2	1.8			9.7	88.0	0.3	2.4	0.0	0.0	11.0
Liechtenstein													0.1
Lithuania	0.2	1.4	0.8	5.8	1.4	10.6	10.8	82.1					13.2
Luxembourg	0.04	6.9	0.1	9.3			0.5	74.9	0.03	3.5	0.0	5.4	0.6

Monaco	0.001	24.8	0.002	43.5					0.001	31.7			0.005
Netherlands	4.5	7.1	9.7	14.9	31.5	49.5	22.2	34.8	0.5	0.8	4.3	6.7	63.7
New Zealand	0.4	1.0	0.2	0.6			37.1	97.2	0.4	1.2	0.03	0.1	38.2
Norway	0.5	2.7	0.6	3.5	6.7	39.8	8.6	51.5	0.3	1.8	0.1	0.7	16.7
Poland[c]	1.0	1.4	6.0	8.6	20.6	28.6	43.0	61.4					70.0
Portugal	0.4	1.8	2.6	10.7	1.9	7.9	18.2	74.0	1.4	5.6			24.6
Romania[c]	0.3	0.4	16.3	24.6	24.4	36.9	25.3	38.1					66.3
Russian Federation[d]			17.4	7.7	3.0	1.3	200.0	88.6	0.3	0.1	5.0	2.2	225.7
Slovakia	0.2	1.1	0.6	3.2	1.9	9.8	16.2	85.3	0.1	0.3	0.004	0.2	19.0
Slovenia	0.1	2.4	0.4	7.7			4.6	89.9			0.004	0.1	5.1
Spain	2.8	2.1	11.1	8.4	9.3	7.0	108.1	81.3	0.5	0.4	1.2	0.9	133.0
Sweden	1.5	6.3	4.2	18.4	2.8	12.2	14.6	63.1					23.1
Switzerland	1.0	8.7	0.2	2.2	0.3	2.8	9.2	81.4	0.2	1.9	0.3	3.1	11.3
Ukraine[d]			6.7	11.6	22.9	39.5	28.0	48.3	0.1	0.2	0.2	0.3	58.0
United Kingdom	4.1	1.9	13.5	6.2	94.5	43.7	100.4	46.5	3.5	1.6			216.0
United States of America	175.2	13.7	43.9	3.4	116.6	9.1	920.6	71.9	23.9	1.9			1 280.2
Total	258.8	7.3	267.0	7.6	627.4	17.8	2 273.3	64.5	48.2	1.4	47.5	1.3	3 522.4
European Community	39.0	3.1	114.0	9.0	356.3	28.0	714.9	56.2	13.8	1.1	33.2	2.6	1 271.2

[a] Includes *fugitive fuel* emissions and *fuel combustion* emissions other than *transport*.
[b] Includes *solvent use* and *land-use change and forestry*.
[c] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).
[d] Total emissions from *fuel combustion* are reported under other energy since emissions were not further disaggregated by the Party.

Table A.12. Anthropogenic N_2O emissions by source category, 1999 (Gigagrams and percentage of total by Party)

	Energy				Industrial processes		Agriculture		Waste		Other[b]		Total
	Transport		Other[a]										
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)
Australia	12.6	13.2	3.4	3.5	2.2	2.3	75.2	78.7			2.2	2.3	95.6
Austria	1.9	25.6	0.9	11.6	0.6	7.9	3.3	44.5	0.03	0.2	0.8	10.2	7.4
Belarus													
Belgium	3.1	7.8	4.2	10.4	14.7	36.5	17.3	43.0	0.6	1.6	1.0	2.6	40.2
Bulgaria	0.1	0.2	7.8	12.7	2.4	3.9	50.4	82.3	0.5	0.9			61.2
Canada	29.3	16.8	7.2	4.1	8.2	4.7	121.5	69.5	3.3	1.9	5.4	3.1	174.9
Croatia													
Czech Republic	1.6	6.0	2.9	11.0	3.2	12.3	17.1	65.5	0.6	2.5	0.7	2.7	26.2
Denmark	1.5	4.7	2.1	6.8			27.4	88.5					31.0
Estonia	0.01	1.0	0.1	10.6			1.0	88.5					1.2
Finland	2.3	9.2	5.6	22.6	4.3	17.1	12.3	49.2	0.3	1.1	0.2	0.8	25.0
France	10.2	4.0	9.5	3.7	35.8	14.1	175.0	68.9	3.4	1.4	20.0	7.9	253.9
Germany	18.0	12.8	21.1	15.0	13.0	9.2	79.0	56.0	4.0	2.8	6.0	4.3	141.1
Greece	2.2	6.5	9.3	28.1	1.8	5.5	19.7	59.7			0.02	0.1	33.1
Hungary	0.1	0.4	0.3	1.0	1.1	3.0	34.7	95.6			0.002	0.0	36.3
Iceland	0.1	14.0	0.02	3.2	0.1	16.5	0.5	66.4					0.7
Ireland	1.3	3.8	3.6	11.1	2.6	8.0	25.2	77.1					32.7
Italy	10.0	7.8	14.7	11.4	21.6	16.7	81.9	63.6	0.6	0.4	0.02	0.0	128.7
Japan	14.9	28.0	10.4	19.5	4.7	8.9	15.8	29.6	6.3	11.8	1.2	2.2	53.3
Latvia	0.2	3.9	0.2	4.8			3.4	85.3	0.2	6.2			4.0
Liechtenstein													
Lithuania													
Luxembourg	0.1	48.3	0.05	17.2					0.03	10.3	0.1	24.1	0.3

Monaco	0.004	44.3	0.003	31.5					0.002	24.3			0.01
Netherlands	6.0	8.2	0.5	0.7	36.1	49.4	25.7	35.1	0.5	0.7	4.3	5.9	73.2
New Zealand	0.5	1.3	0.3	0.7			38.7	96.8	0.5	1.2	0.04	0.1	40.0
Norway	1.7	10.0	0.6	3.3	6.1	35.4	8.3	48.7	0.3	1.9	0.1	0.7	17.1
Poland	3.9	2.5	5.5	7.4	12.1	16.1	55.6	74.1			0.001	0.0	75.1
Portugal	1.5	5.4	2.3	8.4	2.0	7.1	20.3	73.3	1.6	5.8			27.7
Romania													
Russian Federation	0.5	6.1	0.3	3.6	0.2	2.3	7.7	87.5	0.04	0.5	0.01	0.1	8.8
Slovakia													
Slovenia	6.7	4.7	12.8	9.0	7.6	5.4	112.9	79.5	0.6	0.4	1.5	1.0	142.0
Spain	1.8	7.8	4.8	20.7	3.1	13.4	13.6	58.1					23.4
Sweden	2.1	18.0	0.2	2.0	0.3	2.7	8.3	71.2	0.3	2.8	0.4	3.4	11.6
Switzerland													
Ukraine	14.7	10.6	12.9	9.3	11.8	8.5	95.4	69.0	5.6	2.6			138.4
United Kingdom							1 019.0	73.0	27.2	1.9			1 395.4
United States of America	204.4	14.6	50.6	3.6	94.2	6.8							
European Community	80.9	7.3	105.0	9.6	155.4	14.2	702.9	64.4	14.7	1.3	33.1	3.0	1 091.1

[a] Includes *fugitive fuel* emissions and *fuel combustion* emissions other than *transport*.
[b] Includes *solvent use* and *land-use change and forestry*.

Table A.13. **Emissions of hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride[a], 1990, 1995 and 1999, and percentage change by Party (Gigagrams of CO_2 equivalent using IPCC 1995 GWP values with a time horizon of 100 years)**

	HFCs			PFCs			SF_6			Total		
	1990	1995	1999	1990	1995	1999	1990	1995	1999	1990	1995	1999
Australia[b]				4 822.7	1 430.2	1 000.8			3.6	4 822.7	1 430.2	1 004.4
Austria	3.7	546.1	870.5	963.2	15.6	25.3	517.7	1 174.7	729.9	1 484.6	1 736.4	1 625.7
Belarus												
Belgium		332.2	806.2			103.7		206.3			538.4	909.9
Bulgaria			102.7			43.5						146.2
Canada		479.4	917.4	5 975.1	6 044.0	6 202.1	2 870.4	1 879.3	1 673.2	8 845.5	8 402.7	8 792.6
Croatia												
Czech Republic			411.9			2.7			110.9			525.4
Denmark		126.0	621.2		14.0	30.1	40.6	368.1	284.4		508.1	935.7
Estonia												
Finland	0.3	30.0	316.9	0.5	0.9	28.6	71.1	12.9	32.3	71.9	44.9	377.8
France	2 252.6	1 301.9	4 815.1	3 195.4	1 350.4	1 914.5	2 194.9	2 314.0	2 410.6	7 642.8	4 966.3	9 140.2
Germany	3 130.0	3 130.0	4 278.0	2 694.0	1 764.0	1 709.0	3 895.7	6 238.0	5 473.1	9 719.7	11 132.0	11 460.1
Greece	935.1	3 253.1	3 744.0	367.4	77.9	28.5				1 302.5	3 331.0	3 772.5
Hungary			154.3			573.7			101.2			829.2
Iceland		25.0	59.4	304.0	57.0	133.3	5.4	5.4	5.4	309.4	87.4	198.1
Ireland[c]												
Italy	351.0	918.8	2 885.3	237.5	255.2	171.9	198.1	321.1	385.9	786.6	1 495.1	3 443.0
Japan	17 930.0	20 043.9	19 496.9	5 670.0	11 433.4	11 043.2	38 240.0	16 729.9	8 350.5	61 840.0	48 207.2	38 890.6
Latvia									2 227.7			
Liechtenstein												
Lithuania												
Luxembourg												
Monaco[d]												
Netherlands	5 143.7	6 723.6	8 835.7	2 431.8	1 866.8	2 593.8	144.6	174.5	136.7	7 720.1	8 764.9	11 566.2
New Zealand		103.2	209.9	602.5	188.4	74.5	2.9	18.9	33.3	605.4	310.5	317.6

Norway	0.0	25.9	1 [illegible]5	3 032.0	1 561.9	1 121.8	2 190.2	575.5	833.7	5 222.3	2 163.3	2 134.9
Poland[c]								23.9	23.9			
Portugal					156.8	156.8		0.9	1.0		157.7	157.8
Romania												
Russian Federation[f]	9 665.0	7 553.0	5 915.0	31 630.0	24 304.0	30 262.0				41 295.0	31 857.0	36 177.0
Slovakia		24.5	66.0	271.9	113.9	13.9	0.03	9.9	12.7	272.0	148.3	92.6
Slovenia												
Spain	2 893.6	5 595.5	9 146.1	828.4	790.4	695.5	77.8	118.4	224.5	3 799.8	6 504.3	10 066.1
Sweden	1.1	93.8	375.3	440.1	389.4	329.2	81.3	114.7	96.3	522.4	597.9	800.8
Switzerland			365.5			28.2			98.5			492.2
Ukraine												
United Kingdom	11 373.8	15 205.0	6 205.5	2 281.0	1 094.1	678.2	724.2	1 133.5	1 314.2	14 379.0	17 432.6	8 197.9
United States of America	35 743.3	51 098.7	87 105.2	22 158.8	16 744.9	16 843.6	26 000.0	31 200.0	31 800.0	83 902.2	99 043.7	135 748.8
European Community	25 627.1	37 255.9	42 620.3	13 502.2	7 824.4	8 361.2	8 282.9	11 922.2	11 075.6	47 412.3	57 002.5	62 057.2

[a] Estimates given in this table refer to actual emissions, except in the following cases where only potential emissions have been reported: Belgium, Czech Republic, Denmark (PFCs 1995, SF_6), Japan (1990 values), Latvia, Poland, European Community

[b] Party indicated that HFC emissions were not estimated as reliable data are not available

[c] Party indicated that presently it is not possible to construct meaningful and robust estimates for HFCs, PFCs and SF_6

[d] Party did not report estimates, but indicated that emissions were negligible

[e] Party did not report the exact chemical species of all these gases so it was not possible to calculate the emissions in terms of CO_2 equivalent (see tables A 14 and A 15)

[f] 1996 data are given here as 1999 data were not reported

Table A.14a. Emissions of hydrofluorocarbons, 1990, 1995 and 1999 (Megagrams)[a]

	Total HFC			HFC-23			HFC-32			HFC-125		
	1990	1995	1999	1990	1995	1999	1990	1995	1999	1990	1995	1999
Australia[c]												
Austria	3.7	546.1	870.5	0.2	0.2	0.5		0.1	0.9		1.4	16.2
Belarus												
Belgium											0.9	8.6
Bulgaria			102.7			0.6			0.3			7.2
Canada		479.4	917.4		0.1	0.1		0.005	0.2		18.1	42.1
Croatia												
Czech Republic			411.9			0.4			0.9			32.8
Denmark		126.0	621.2					0.2	5.9		4.7	43.5
Estonia												
Finland	0.3	30	316.9	0.03	0.1	0.3		0.1	8.6		1.6	34.3
France	2 252.6	1 301.9	4 815.1	167.9	18.1	33.3			4.0	11.7	82.9	257.8
Germany	3130	3130	4 278.0			5.0						
Greece	935.1	3 253.1	3 744.0	79.9	278.0	320						
Hungary			154.3									4.6
Iceland		25.0	59.4						0.1		3.9	8.4
Ireland[f]												
Italy	351.0	918.8	2 885.3	30	30.2	2.1		12.9	33.9		43.0	92.1
Japan	17 615.0	20 043.9	19 496.9	1 500	20 043		300	443.0			550	
Latvia												
Liechtenstein												
Lithuania												
Luxembourg												
Monaco[c]												
Netherlands	5 143.7	6 723.6	8 835.7	436.0	536.0	631.4				7.2	24.0	60.5
New Zealand		103.2	209.9					0.4	7.4		0.5	10.4
Norway	0.02	25.9	179.5		0.002	0.1		0.001	0.6		2.4	19.9

Poland[3]		17.0	377.0							
Portugal										
Romania										
Russian Federation[1]	870	790		820	640					
Slovakia		24.5	66.0		0.001	0.01		0.1	0.01	0.8
Slovenia										
Spain	2 893.6	5 595.5	9 146.1	247.3	477.9	573.8				29.7
Sweden	1.1	93.8	375.3		0.1	0.04		0.6	0.5	4.7
Switzerland			365.5					2.8		18.2
United Kingdom[2]	11 373.8	15 205.0	6 205.5							
United States of America	35 743.3	51 098.7	87 105.2	2 974.4	2 318.0	2623		17.4	478.1	1 288.8
European Community[2]										

[1] Estimates given in this table refer to actual emissions.
[2] Party indicated that HFC emissions were not estimated as reliable data are not available.
[3] Poland only reported aggregate emissions of HFCs. For 1999 Japan only reported aggregate emissions of HFCs.
[4] Party indicated that presently it is not possible to construct meaningful and robust estimates for HFCs.
[5] Party did not report estimates but indicated that emissions of HFCs were negligible.
[6] 1996 data are given here as 1999 data were not reported.
[7] Party did not report emissions of each species for reasons of commercial confidentiality.
[8] Party only reported emissions in CO_2 equivalent.

Table A.14b. Emissions of hydrofluorocarbons, 1990, 1995 and 1999 (Megagrams)

	HFC-134a			HFC-152a			HFC-143a			Other		
	1990	1995	1999	1990	1995	1999	1990	1995	1999	1990	1995	1999
Australia												
Austria[a]	1.4	414.3	602.0		0.1	0.7		0.4	9.5			0.1
Belarus												
Belgium			351.1			20.9			11.4			
Bulgaria												
Canada[a]		284.7	522.7		4.0	31.4		10.6	29.9		5.8	
Croatia												
Czech Republic												
Denmark		69.6	264.7		43.4	38.4		4.3	38.5			
Estonia												
Finland		34.6	126.5	0.1	17.0	27.4		0.9	11.5			
France[b]		523.4	2 169.0	11.7	5.0	0.7	66.7	38.4	206.6		23.5	67.6
Germany												
Greece												
Hungary			92.8						5.5			
Iceland												
Ireland												
Italy			1 801.0						63.0			
Japan												
Latvia												
Liechtenstein												
Lithuania												
Luxembourg												

Monaco[c]												
Netherlands[d]	9.0	261.8	771.4	5.0	24.0		2.6	9.3	861.0		2.0	16.2
New Zealand			101.7			1.7			11.0			
Norway[e]			50.2	0.1		6.0			14.7			0.2
Poland[f]												
Portugal												
Romania												
Russian Federation[f]	50	50										
Slovakia[g]			44.4			0.6			0.8		3.5	0.8
Slovenia												
Spain[g]		1.6	1 650.9						43.7		0.8	12.9
Sweden	0.9	68.4	252.8		1.3	133.4		0.7	3.7			
Switzerland[h]			187.1			5.6			17.5			0.8
Ukraine												
United Kingdom[i]												
United States of America[j]	564.1	14345.3	30 340.0					110.8	675.7	1 400.0	23 798.8	63 177.4
European Community[c]												

[a] Emissions of HFC-227ea are given under *Other*.
[b] Emissions of HFC-227ea and HFC 43-10mee are given under *Other*.
[c] Party did not report estimates, but indicated that emissions of HFCs were negligible.
[d] Emissions of HFCs given under *Other* were reported as unspecified (including amongst other HFC-23, 32, 43-10mee, 152a, and 227ea, using an average GWP of 3000).
[e] Party only reported aggregate emissions of HFCs (see table A 14a).
[f] 1996 data are given here as 1999 data were not reported.
[g] Emissions of HFC-227ea (1995) and HFC 236fa (1995, 1999) are given under *Other*.
[h] Emissions of HFC 41and HFC-236fa (1999) are given under *Other*.

Table A.15. Emissions of perfluorocarbons and sulphur hexafluoride, 1990, 1995 and 1999 (Megagrams)[a]

	CF_4			C_2F_6			SF_6		
	1990	1995	1999	1990	1995	1999	1990	1995	1999
Australia	654.6	193.0	134.9	61.8	19.3	13.5			0.2
Austria	132.8	0.8	1.5	10.9	1.1	1.7	21.7	49.2	30.5
Belarus									
Belgium								8.6	8.6
Bulgaria			5.9			0.6			
Canada	813.9	827.1	850.1	74.4	71.8	73.1	120.1	78.6	70.0
Croatia									
Czech Republic			0.1						4.6
Denmark							1.8	4.5	2.7
Estonia									
Finland	0.03	0.03	0.1			0.01	3.0	0.6	1.4
France	317.2	102.2	182.8	80.5	27.6	55.1	91.8	96.8	100.9
Germany	355.0	224.0	186.0	42.0	32.0	46.0	163.0	261.0	229.0
Greece	49.5	10.5	4.3	5.0	1.1	0.04			
Hungary			75.5			7.6			4.2
Iceland	40.4	7.6	17.7	4.5	0.8	2.0	0.2	0.2	0.2
Ireland									
Italy	28.9	29.4	17.5	5.4	6.9	6.3	8.3	13.4	16.1
Japan	300.0	11 433.388	417.0	100.0	280.0	651.0	1 600.0	700.0	349.4
Latvia									0.004
Liechtenstein									
Lithuania									
Luxembourg									
Monaco									
Netherlands	301.0	223.0	308.0	48.0	38.0	51.0	6.1	7.3	5.7

New Zealand	80.1	24.3	9.9	8.9	2.7	1.1	0.1	0.8	1.4
Norway	441.0	229.1	163.7	18.0	7.9	6.2	91.6	24.1	35.0
Poland[c]								1.0	1.0
Portugal		20.1	20.1		2.9	2.9		0.04	0.04
Romania									
Russian Federation[d]	4 300.0	359		406	359				
Slovakia	36.6	15.4	1.9	3.7	1.5	0.2	0.0	0.4	0.5
Slovenia									
Spain	114.3	108.0	91.2	9.3	9.5	7.9	3.3	5.0	9.4
Sweden	58.5	50.9	42.9	6.5	6.3	5.5	3.4	4.8	4.0
Switzerland			2.0			1.4			5.2
United Kingdom[e]							30.3	47.4	55.0
United States of America	2 575.1	1 535.2	1 381.6	589.2	735.4	854.7	1 087.9	1 305.4	1 330.5
European Community[f]							346.6	498.8	463.4

[a] Estimates given in this table refer to actual emissions.
[b] Party only reported aggregate emissions of PFCs.
[c] Party did not report estimates, but indicated emissions of PFCs and SF_6 were negligible.
[d] 1996 data are given here as 1999 data were not reported.
[e] Party did not report emissions of each PFC species for reasons of commercial confidentiality.

Table A.16. **Anthropogenic emissions of CO, NO_x, NMVOCs and SO_2, 1990 and 1999 (Gigagrams)**

	CO		NO_x		NMVOC		SO_2	
	1990	1999	1990	1999	1990	1999	1990	1999
Australia	21 375	22 423	2 293	2 653	1798	2 108	86	1 818
Austria	1 306	864	191	168	345	231	91	42
Belarus								
Belgium	784	1 049	321	286	291	274	324	170
Bulgaria[a]	827	493	486	123	132	64		1 062
Canada								
Croatia								
Czech Republic	1 055	709	742	390	311	244		269
Denmark	681	534	268	209	175	136	183	56
Estonia	186	144	79	38	23	23		120
Finland	549	545	311	248	237	177	237	85
France	10 996	7 369	1 929	1 609	2 963	2 295	1 321	741
Germany	11 213	4 952	2 706	1 637	3 221	1 651	5 321	831
Greece	1 356	1 440	311	340	317	350	479	531
Hungary[a]	743	623	231	210	205	170		595
Iceland[b]	58	26	26	26	13	8	24	9
Ireland	398	281	101	117	98	83	167	157
Italy	7 863	6 072	1 952	1 490	2 259	1 674	1 652	924
Japan	3 849	3 674	1 867	1 996	1 911	1 850	972	870
Latvia	388	296	93	40	148	114	119	33
Liechtenstein	2		1		2			
Lithuania	644		178		94			
Luxembourg	175		23		20	12		
Monaco	3	2	1	1	1	1	0	0
Netherlands	1 139	679	563	408	500	282	193	100
New Zealand	755	892	140	185	158	185	61	61
Norway	820	565	219	230	302	351	53	29

Poland[a]	7 409		1 456		1 290			
Portugal	1 109	1 072	282	371	381	498	339	357
Romania[a]	2 421		554		529			
Russian Federation	8 140		3 030		5 990		9 440	
Slovakia[a]	537	305	229	117	149	79	543	171
Slovenia	174		64		37			
Spain	3 982	3 322	1 228	1 370	2 852	2 376	2 136	1 563
Sweden	1 113	911	349	267	517	431	110	84
Switzerland[b]	707	400	163	99	281	165	42	26
Ukraine[a]	7 481		1 243		656			
United Kingdom	7 154	4 757	2 759	1 602	2 479	1 565	3 754	1 187
United States of America	85 978	83 093	21 955	23 042	18 843	16 129	21481	17115
European Community	49 817	33 602	13 292	10 136	16 633	12 004	16 325	6 803

[a] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).

[b] As data for 1990 were not available in the Party's recent submission, data for 1990 given here are from previous submissions.

Table A.17. **Anthropogenic emissions of CO_2, CH_4 and N_2O from international bunkers, 1990 and 1999 (Gigagrams)**

	CO_2 1990			CO_2 1999			CH_4 1990			CH_4 1999			N_2O 1990			N_2O 1999		
	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total
Australia	4 345	2 056	6 401	7 268	2 450	9 718	0 02	0 1	0 1	0 003	0 1	0 1	0 1	0 1	0 2	0 2	0 1	0 3
Austria	941		941	1 615		1 615	0 01		0 01	0 01		0 01	0 01		0 01	0 01		0 01
Belarus																		
Belgium	2 690	13 069	15 759	4 364	14 586	18 950												
Bulgaria[a]	892	874	1 766	319	26	345	0 04	0 01	0 1	0 00	0 01	0 02	0 0	0 02	0 02	0 0	0 03	0 03
Canada	2 729	2 995	5 724	3 032	3 550	6 582	0 1	0 3	0 3	0 1	0 3	0 4	0 3	0 3	0 6	0 3	0 3	0 6
Croatia																		
Czech Republic				539		539				0 2		0 2				0 01		0 01
Denmark	1 795	3 095	4 890	2 314	4 146	6 460	0 04	0 1	0 1	0 04	0 1	0 1	0 1	0 2	0 3	0 1	0 3	0 4
Estonia					362	362												
Finland	974	1 800	2 774	1 058	1 764	2 822	1 2	0 05	1 3	0 05	0 05	0 1	0 4	0 7	1 2	0 05	0 7	0 8
France	8 618	8 137	16 755	13 753	9 311	23 064								0 3	0 3		0 3	0 3
Germany	11 589	7 980	19 569	16 656	6 479	23 135	0 2	0 3	0 4	0 2	0 3	0 5	0 2	0 4	0 6	0 3	0 3	0 6
Greece	2 452	8 028	10 480	2 266	9 838	12 104	0 1	0 8	0 8	0 1	0 9	1 0	0 1	0 2	0 3	0 2	0 3	0 4
Hungary[a]				596		596												
Iceland	220	99	319	363	164	527	0 0	0 01	0 01	0 0	0 01	0 02	0 0	0 0	0 01	0 01	0 0	0 01
Ireland	1 116	56	1 173	1 624	543	2 166												
Italy	4 388	4 396	8 784	7 468	3 046	10 514	0 1	0 4	0 5	0 2	0 2	0 4	0 1	0 1	0 2	0 1	0 1	0 2
Japan	13 178	17 348	30 525	18 519	17 322	35 841	0 4	1 6	1 9	0 5	1 6	2 1		0 4	0 4		0 4	0 4
Latvia																		
Liechtenstein																		
Lithuania																		
Luxembourg			111	1 019		1 019												

Monaco																	
Netherlands	4 450	35 560	40 010	10 066	41 143	51 210											
New Zealand	1 353	1 031	2 384	1 959	953	2 912	0.03	0.1	0.1	0.04	0.1	0.1	0.02	0.03	0.1	0.03	0.03	0.1
Norway	605	1 478	2 083	975	2 733	3 709	0.02	0.1	0.1	0.03	0.2	0.2	0.02	0.04	0.1	0.03	0.1	0.1
Poland[a]				346	1 378	1 723				0.01	0.2	0.2				0.02	0.1	0.1
Portugal	883	1 173	2 057	874	1 208	2 082	0.1	1.9	2.0	0.1	1.9	2.0	0.02	0.03	0.1	0.02	0.03	0.05
Romania[a]																		
Russian Federation	2 900	9 500	12 400				0.02	0.6	0.7				0.1	0.1	0.2			
Slovakia																		
Slovenia																		
Spain	3 161	11 780	14 940	7 746	19 074	26 820	0.05	0.6	0.6	0.1	1.0	1.0	0.1	0.3	0.4	0.2	0.5	0.7
Sweden	1 826	2 163	3 989	2 103	4 750	6 854				0.1		0.1					0.3	0.3
Switzerland	3 200		3 200	4 520		4 520												
Ukraine																		
United Kingdom	14 791	6 559	21 349	25 539	6 357	31 896	2.9	0.6	3.5	4.3	0.6	4.9	0.5	0.4	0.9	0.8	0.4	1.2
United States of America	46 728	67 272	114 001	60 970	46 376	107 345	1.3	0.6	1.9	1.7	0.4	2.1	1.5	1.7	3.1	1.9	1.1	3.1
European Community	60 073	103 796	163 869	97 963	125 727	223 690	4.6	4.6	9.2	5.2	5	10.2	1.5	2.6	4.1	1.8	3.1	5.0

[a] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

Table A.18. Anthropogenic emissions of CO and NO_x from international bunkers, 1990 and 1999 (Gigagrams)

	CO 1990			CO 1999			NO_x 1990			NO_x 1999		
	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total
Australia	7.2	1.9	9.1	12.0	2.0	14.0	23.3	54.7	78	38.9	65.9	104.8
Austria	0.8		0.8	1.4		1.4	3.3		3.3	6.5		6.5
Belarus												
Belgium												
Bulgaria[a,b]			1.8	0.5	0.2	0.7			22.4	1.3	0.6	1.8
Canada												
Croatia												
Czech Republic				9.9		9.9				3.3		3.3
Denmark	1.9	7.2	9.1	2.1	9.7	11.8	7.3	84.6	91.9	9.3	113.6	122.9
Estonia				4.8		4.8				7.3		7.3
Finland	5.5	4.0	9.5	4.2	2.3	6.6	2.8	32.8	35.6	3.7	39.6	43.4
France	7.9	2.1	10.0	8.3	2.4	10.7	21.1	154.8	175.9	34.0	177.2	211.2
Germany	56.6	37.3	93.9	88.0	30.0	118.0	50.6	155.3	205.9	88.0	127.0	215.0
Greece	6.3	19.0	25.4	9.4	23.4	32.8	23.4	185.3	208.7	30.0	227.4	257.4
Hungary[a]				0.1		0.1						
Iceland	4.1	0.1	4.3	4.4	1.3	5.6	5.3	1.0	6.3	3.4	9.8	13.2
Ireland	3.5	20.0	23.5	6.1	5.1	11.1	12.0	194.3	206.3	38.9	39.0	77.9
Italy												
Japan	22.4	42.1	64.5	31.4	42.1	73.5	54.1	421.4	475.5	76.0	420.6	496.6
Latvia												
Liechtenstein												
Lithuania												
Luxembourg			0.3						0.1			
Monaco												
Netherlands												
New Zealand	2.2	2.5	4.7	3.2	2.3	5.4	5.6	24.9	30.4	8.1	22.6	30.7
Norway	1.6	1.4	3.0	1.5	2.7	4.2	1.7	30.3	32.0	3.0	56.0	59.0

Poland												
Portugal	3.1	0.7	3.8	3.6	0.7	4.3	3.7	33.0	36.7	3.7	33.9	37.6
Romania												
Russian Federation												
Slovakia												
Slovenia												
Spain	5.9	7.2	13.1	14.0	11.8	25.8	16.5	249.3	265.8	40.8	416.8	457.6
Sweden	4.0	3.0	7.0	4.6	10.6	15.3	4.0	48.6	52.0	7.1	33.7	40.8
Switzerland												
Ukraine												
United Kingdom	60.1	15.5	75.6	95.4	15.0	110.5	72.8	119.6	192.4	127.3	115.9	243.1
United States of America	76.7	39.4	116.1	100.5	27.1	127.6	184.5	1 802.9	1 987.3	241.5	1 243.0	1 484.5
European Community	160.0	116.0	276.3	244.0	112.0	356.5	224.0	1 258.0	1 482.3	396.0	1 334.0	1 729.5

[a] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988); Hungary (average of 1985-1987).

[b] As data for 1990 were not available in the Party's recent submission, data for 1990 given here are from previous submissions.

Table A.19. **Anthropogenic emissions of NMVOCs and SO_2 from international bunkers, 1990 and 1999 (Gigagrams)**

	NMVOC 1990			NMVOC 1999			SO_2 1990			SO_2 1999		
	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total
Australia	3.6	1.7	5.3	6.0	2.1	8.0	0.8	31.8	32.6	1.4	48.5	49.9
Austria	0.3		0.3	0.6		0.6	0.8		0.8	0.6		0.6
Belarus												
Belgium												
Bulgaria[b]			0.3	0.1	0.03	0.1				0.1	0.1	0.2
Canada												
Croatia												
Czech Republic				3.8		3.8				0.4		0.4
Denmark	0.4	2.3	2.7	0.4	3.0	3.5	0.1	54.5	54.6	0.1	57.4	57.5
Estonia				1.0		1.0					2 363.8	2 363.8
Finland	0.3	5.2	5.5	0.5	1.1	1.6	0.5	18.5	19.0	0.3	14.0	14.3
France	2.9	70.8	73.7	2.5	81.1	83.6	2.7	150.8	153.5	4.4	160.8	165.1
Germany	9.3	15.2	24.5	13.0	12.0	25.0	3.9	126.3	130.2	5.0	96.0	101.0
Greece	0.7	6.2	6.8	0.9	7.6	8.5	1.5	147.5	149.0	0.5	174.5	175.0
Hungary												
Iceland	1.0	0.04	1.0	1.1	0.4	1.5	0.4	0.6	0.9	0.5	3.2	3.7
Ireland	2.5	5.7	8.2	2.2	1.6	3.8	1.2	131.2	132.4	2.6	41.1	43.7
Italy												
Japan	3.4	12.2	15.5	4.7	12.2	16.9						
Latvia												
Liechtenstein												
Lithuania												
Luxembourg			0.1									
Monaco												
Netherlands												
New Zealand	0.3	0.7	1.0	0.5	0.6	1.1	0.1	9.4	9.4	0.1	11.2	11.3
Norway	0.5	1.1	1.6	0.3	2.1	2.3	0.1	9.9	10	0.1	12.9	13.0

Poland												
Portugal	1.0	0.1	1.1	1.0	0.1	1.1	0.2	18.7	18.9	0.2	17.1	17.4
Romania												
Russian Federation												
Slovakia												
Slovenia												
Spain	2.8	11.2	14.0	6.8	19.7	26.4	1.0	182.9	183.9	2.5	341.8	344.3
Sweden	1.0	1.0	2.0	0.7		0.7		17.0	17.0	0.6	16.6	17.2
Switzerland												
Ukraine												
United Kingdom	36.9	4.4	41.3	58.2	4.3	62.5	2.8	92.5	95.3	6.5	83.1	89.5
United States of America	11.5	47.9	59.4	15.1	33.1	48.1						
European Community	59.0	122.0	181.3	89.0	131.0	219.9	15.0	940.0	955.5	24.0	1 005.0	1029.5

[a] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988).

[b] As data for 1990 were not available in the Party's recent submission, data for 1990 given here are from previous submissions.

Table B.1. **Aggregate emissions of CO_2, CH_4, N_2O, HFCs, PFCs and SF_6 [a] 1990-1999, excluding CO_2 emissions/removals from land-use change and forestry (Gigagrams of CO_2 equivalent and percentage change)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	423 852	423 413	424 812	427 185	429 024	442 514	453 561	463 498	483 444	489 092	15.4
Austria	76 939	80 875	74 404	73 656	75 621	78 044	79 150	80 828	79 203	79 224	3.0
Belarus											
Belgium[b]	136 463	143 959	143 838	142 234	147 647	149 853	154 172	144 544	155 052	150 857	10.5
Bulgaria	157 090	115 680	103 710	102 084	92 586	98 083	101 894	89 811	81 360	77 697	-50.5
Canada	607 183	599 697	616 143	618 768	641 007	657 772	671 971	681 600	689 097	698 619	15.1
Croatia											
Czech Republic[b]	189 837	175 323	161 221	154 710	147 291	148 103	153 579	157 816	148 300	140 053	-26.2
Denmark	69 951	80 809	74 802	76 765	80 415	77 165	90 416	80 467	76 610	73 173	4.6
Estonia[b]	40 719	39 813	30 210	24 087	24 925	22 653	23 122	23 097	21 756	19 878	-51.2
Finland	77 093	74 809	71 369	71 667	77 751	75 168	80 536	79 446	76 833	76 243	-1.1
France	553 262	576 447	564 486	538 888	536 545	546 134	560 846	551 350	564 623	552 209	-0.2
Germany	1 179 786	1 154 932	1 102 051	1 082 774	1 064 059	1 061 495	1 076 372	1 039 442	1 019 648	982 407	-16.7
Greece	105 479	105 290	105 982	107 483	109 636	111 192	114 495	119 459	124 469	123 253	16.9
Hungary[c]	101 633	87 905	79 077	78 974	77 161	77 916	79 183	76 854	83 688	86 547	-14.8
Iceland	2 939	2 807	2 781	2 833	2 790	2 863	2 933	3 041	3 121	3 441	17.1
Ireland	53 497	54 167	54 783	54 541	56 437	57 317	58 919	61 366	63 715	65 337	22.1
Italy	518 461	518 990	515 591	503 496	497 677	525 042	519 469	524 621	536 318	541 127	4.0
Japan	1 237 397	1 266 232	1 286 570	1 269 706	1 351 657	1 317 158	1 335 925	1 332 703	1 280 808	1 307 430	5.7
Latvia	31 025	24 871	20 451	16 802	15 313	13 382	12 673	11 935	12 101	13 362	-56.9
Liechtenstein	260										
Lithuania[bd]	51 548								23 851		-53.7
Luxembourg[b]	13 448				12 674	10 223				5 522	-58.9
Monaco	100	116	123	125	127	124	130	130	125	133	33
Netherlands	215 798	222 542	219 833	221 863	224 081	232 897	241 119	237 383	237 079	230 085	6.6
New Zealand	73 064	72 738	74 005	73 166	73 652	73 757	74 781	76 150	75 010	76 829	5.2

Norway	52 027	49 701	48 118	50 093	52 087	51 917	54 978	55 215	55 683	56 171	8.0
Poland[b]	564 286	437 448	439 045	429 649	438 895	416 530	436 545	426 220	402 477	400 260	-29.1
Portugal	64 644	66 980	70 456	68 841	69 561	72 974	71 341	73 588	77 081	79 304	22.7
Romania[c]	264 879	179 762	172 168	167 187	164 026						-38.1
Russian Federation[b]	3 040 062				2 149 969	2 065 711	1 962 441				-35.4
Slovakia	72 530	63 857	59 154	55 052	52 003	53 697	53 505	53 509	52 518	52 339	-27.8
Slovenia	19 212										
Spain	305 832	312 503	321 814	327 115	324 159	336 739	331 545	349 041	358 369	360 098	17.7
Sweden	69 562	70 679	69 022	69 168	73 608	72 656	77 324	71 390	72 554	70 692	1.6
Switzerland	53 005	54 933	54 607	52 151	51 437	52 285	52 624	52 454	53 790	53 446	0.8
Ukraine	919 220	784 111	765 090	678 301	572 045	538 833	499 634	466 471	454 934		-50.5
United Kingdom	741 882	742 690	719 102	698 717	694 966	685 058	705 883	682 921	682 109	637 865	-14.0
United States of America	6 038 180	5 987 029	6 108 424	6 210 825	6 345 366	6 401 324	6 597 807	6 678 063	6 686 830	6 746 072	11.7
European Community	4 207 080	4 217 583	4 121 990	4 028 486	4 045 226	4 088 895	4 169 702	4 102 689	4 119 701	4 037 417	-4.0

[a] Aggregate emissions of CO_2, CH_4, N_2O, and HFCs, PFCs and SF_6, where reported (see table B.3)

[b] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[c] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).

[d] Party reported only emissions of CO_2 and CH_4, not N_2O, for 1995-1997, so no aggregate emissions for these years are provided here.

Table B.2. **Aggregate emissions of CO_2, CH_4, N_2O, HFCs, PFCs and SF_6[a] 1990-1999, including land-use change and forestry[b] (Gigagrams of CO_2 equivalent and percentage change)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	493 781	466 844	464 586	464 484	464 758	477 949	491 058	499 273	525 624	529 859	7.3
Austria	67 725	67 371	65 748	64 673	67 760	70 790	73 764	73 194	71 570	71 591	5.7
Belarus											
Belgium[c]	134 406	141 902	141 781	140 177	145 590	147 796	152 115	143 567	153207	149012	10.9
Bulgaria[d]	152 433	107 800	96 074	95 062	85 612	90 563	94 704	83 959	75 128	71 089	-53.4
Canada	545 684	535 225	568 212	579 774	606 436	640 126	648 351	662 544	667 640	678 341	24.3
Croatia											
Czech Republic[e]	187 556	170 296	155 180	149 067	143 348	142 649	149 101	153 177	144 542	136 652	-27.1
Denmark	69 035	79 891	73 881	75 841	79 487	76 234	89 475	79 516	75 646	72 197	4.6
Estonia[ce]	29 402				13 800	9 387		31 090	18 400	11 770	-60.0
Finland	53 295	36 602	39 475	42 551	60 492	60 481	59 503	66 809	67 120	65 422	22.8
France	493 645	519 959	503 240	473 023	469 050	480 983	493 649	483 260	496 599	483 214	-2.1
Germany	1 213 505	1 188 651	1 135 770	1 116 493	1 097 778	1 094 925	1 109 802	1 072 872	1 053 078	1 015 837	-16.3
Greece	106 728	105 725	107 911	108 920	110 788	110 822	114 424	119 187	126 886	123 448	15.7
Hungary[d]	98 536	84 667	75 255	74 276	72 341	73 118	75 253	72 649	79 277	82 047	-16.7
Iceland[f]										3 441	
Ireland	48 477	48 991	49 408	48 955	50 713	51 403	52 854	55 095	57 222	58 603	20.9
Italy	498 240	502 497	498 733	487 719	482 221	509 183	502 615	509 602	521 023	525 028	5.4
Japan[g]	1 153 515	1 182 389	1 201 029	1 179 649	1 258 141	1220482					5.8
Latvia	20 199	14 045	9 576	5 934	4 467	2 898	2 176	1 426	1 593	2 697	-86.6
Liechtenstein	238										
Lithuania[ch]	42 700								16 139		62.2
Luxembourg[c]	13 153				12 379	9 928				5 709	-56.6
Monaco[f]											
Netherlands	214 298	220 942	218 233	220 263	222 381	231 197	239 419	235 683	235 379	228 385	6.6

New Zealand	51 426	52 258	55 588	56 691	57 817	57 451	58 164	57 937	54 051	54 711	6.4
Norway[d]	42 437	38 001	34 868	36 583	36 407	38 277	37 367	38 716	38 095	38 429	-9.4
Poland[e]	529 540	394 690	398 230	389 470	396 982	373650	393 928	385 699	372 657	443 765	-16.2
Portugal	60 650	62 861	66 212	64 472	65 066	68 354	66 703	68 950	72 407	74 612	23.0
Romania[d]	261 954	173 172	165 576	160 597	157 436						-39.9
Russian Federation[e]	2 648 062				1 581 969	1 225 711	1 122 441				-57.6
Slovakia	70 104	61 431	56 728	52 626	48 768	50 462	49 272	49 423	50 835	49 712	-29.1
Slovenia	16 919										
Spain	276 580	283 251	292 562	297 863	294 906	307 487	302 293	319 788	329 117	330 846	19.6
Sweden	49 270	41 352	45 669	39 836	47 303	51 363	55 055	44 102	48 223	46 387	-5.9
Switzerland	49 817	51 676	51 252	47 826	47 097	47 975	48 164	47 818	49 220	49 220	-1.2
Ukraine	867 113	731 147	712 432	625 383	519 324	485 893	433 483	397 664	386 225		-55.5
United Kingdom	750 673	751 559	727 429	705 328	700 350	689 746	710 852	687 694	687 105	642 597	-14.4
United States of America	4 978 280	4 940 229	5 112 524	5 186 625	5 316 866	5 382 324	5 576 407	5 696 163	5 703 430	5 755 672	15.6
European Community	4 007 229	3 995 675	3 912 844	3 809 657	3 839 495	3 891 064	3 963 729	3 898 335	3 924 333	3 836 433	-4.3

[a] Aggregate emissions of CO_2, CH_4, N_2O and HFCs, PFCs and SF_6 where reported (see table B.3).

[b] Estimates for *land-use change and forestry* are as reported in accordance with the present IPCC Guidelines for National Greenhouse Gas Inventories (see table B.8).

[c] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[d] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).

[e] As the Party did not provide estimates from the *land-use change and forestry* sector for 1991-1993 and 1996, no estimates for these years are provided here.

[f] As the Party did not provide estimates from the *land-use change and forestry* sector, no estimates are given in this table.

[g] As the Party did not provide estimates from the *land-use change and forestry* sector for 1996-1999, no estimates for these years are provided here.

[h] Party reported only emissions of CO_2 and CH_4, not N_2O, for 1995-1997, so no aggregate emissions are provided here.

Table B.3. **Aggregate emissions of hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride, 1990-1999[a] (Gigagrams of CO_2 equivalent)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia[b,c]	4 823	4 827	3 582	3 150	2 048	1430	1 292	1 145	1 419	1 004	-79
Austria	1 485	1 663	1 310	883	1 103	1 736	1 886	1 884	1 791	1 626	10
Belarus											
Belgium[d]						538	624	766	738	910	69
Bulgaria[c]									646	146	
Canada	8 845	9 579	8 773	9 409	8 949	8 403	8 149	8 236	8 496	8 793	-1
Croatia											
Czech Republic									523	525	
Denmark	41	327	331	401	492	508	553	634	720	936	2203
Estonia											
Finland	72	49	34	27	34	45	93	185	259	378	425
France	7 643	6 200	5 446	4 716	4 496	4 966	5 984	7 010	7 818	9 140	20
Germany	9 720	9 042	9 484	11 163	11 440	11 132	10 232	10 692	11 460	11 460	18
Greece[c]	1 302	1 422	1 130	1 736	2 226	3 331	3 821	4 024	3 798	3 772	190
Hungary									952	829	
Iceland	309	255	116	60	50	87	56	103	151	198	-36
Ireland[f]											
Italy	787	817	814	831	1 129	1 495	1 249	1 614	1 939	3 443	336
Japan[f]	61 840	67 938	73 920	75 580	86 524	48 207	48 045	47 972	44 241	38 891	-37
Latvia[g]										2 228	
Liechtenstein											
Lithuania											
Luxembourg											
Monaco											
Netherlands	7 720	7 400	6 800	7 335	8 488	8 765	9 727	10 220	11 296	11 566	50
New Zealand	605	653	646	247	300	310	414	384	397	318	-48

Norway	5 222	4 591	2 709	2 703	2 574	2 163	2 075	2 009	2 089	2 135	-59
Poland[g]						24			24	24	
Portugal[b]						158	158	158	158	158	
Romania											
Russian Federation[c]	41 295				38 603	31857	36 177				-12
Slovakia	272	267	249	156	144	148	91	114	80	93	-66
Slovenia											
Spain	3 800	3 445	3 737	3 142	4 769	6 504	7 298	7 858	7 940	10 066	165
Sweden	522	512	500	508	533	598	587	701	701	801	53
Switzerland								588	692	492	
Ukraine											
United Kingdom	14 379	14 425	14 138	14 604	15 855	17 433	18 466	20 371	22 124	8 198	-43
United States of America	83 902	78 792	83 557	83 824	86 929	99 044	115 093	123 280	138 575	135 749	62
European Community	47 412	45 766	44 214	45 841	50 981	57 003	60 526	65 967	70 594	62 057	31

[a] Aggregate emissions of HFCs, PFCs and SF_6, where reported, as estimates for these gases were not reported by all Parties, for all years or in sufficient detail to convert estimates to units of CO_2 equivalent.

[b] Estimates include emissions of PFCs and SF_6 only.

[c] Party indicated that HFC emissions were not estimated as reliable data are not available.

[d] Estimates include emissions of HFCs and SF_6 only.

[e] Estimates include emissions of HFCs and PFCs only.

[f] Party indicated that presently it is not possible to construct meaningful and robust estimates for HFCs, PFCs and SF_6.

[g] Estimates include emissions of SF_6 only.

Table B.4. **Total anthropogenic CO_2 emissions, excluding land-use change and forestry, 1990-1999 (Gigagrams and percentage change)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	278 600	280 205	282 699	286 222	290 290	302 199	312 203	319 438	335 971	340 776	22.3
Austria	62 132	66 024	60 154	59 901	61 756	63 754	64 889	66 829	65 489	65 778	5.9
Belarus											
Belgium[a]	113 997	121 420	121 591	119 519	124 312	125 576	129 654	121 340	130 762	126 491	11.0
Bulgaria[b]	103 856	66 043	59 183	61 859	59 178	62 332	66 825	58 742	52 277	48 440	-53.4
Canada	471 563	461 886	475 414	473 976	488 077	500 626	513 343	524 505	533 907	545 652	15.7
Croatia											
Czech Republic[a]	165 490	153 142	140 220	134 851	127 745	128 817	132 538	137 125	128 268	121 093	-26.8
Denmark	53 045	63 668	58 315	59 985	63 861	60 686	74 035	64 540	60 203	56 976	7.4
Estonia[a]	37 797	36 956	27 766	21 979	22 852	20 859	21 423	20 716	19 232	16 989	-55.1
Finland	62 466	61 071	58 670	59 172	65 468	62 684	68 130	66 911	64 601	64 186	2.8
France	385 490	409 099	401 010	379 660	375 710	381 996	395 858	389 579	410 684	404 695	5.0
Germany	986 860	975 951	928 307	918 268	904 111	903 737	924 621	893 524	888 264	858 511	-13.0
Greece	84 350	84 128	84 939	86 083	87 464	88 148	90 279	94 757	99 345	98 452	16.7
Hungary[b]	83 676	67 391	60 557	60 826	59 196	59 758	60 475	58 894	57 601	60 117	-28.2
Iceland	2 144	2 075	2 209	2 309	2 273	2 309	2 393	2 468	2 506	2 737	27.7
Ireland	31 575	32 256	32 893	32 421	33 987	34 501	35 700	38 071	40 019	41 887	32.7
Italy	437 750	436 522	435 491	423 527	417 291	442 457	437 405	440 170	454 200	456 533	4.3
Japan	1 124 350	1 147 789	1 162 218	1 143 968	1 214 078	1217764	1 236 191	1 233 525	1 186 964	1 224 980	9.0
Latvia	23 526	18 491	14 924	12 859	11 911	10 145	9 549	8 619	8 287	7 385	-68.6
Liechtenstein	208										
Lithuania[a]	39 535					15 200	16 200	16 200	16 694		-57.8
Luxembourg[a]	12 750				11 998	9 545				5 432	-57.4
Monaco	98	113	120	121	123	120	126	125	121	129	32.3
Netherlands	161 173	166 920	165 170	167 450	168 380	177 130	184 721	181 166	180 913	174 126	8.0
New Zealand	25 399	25 882	27 763	27 136	27 199	27 206	28 223	30 210	28 824	30 523	20.2

Norway	35 079	33 464	34 307	35 810	37 676	37 794	40 871	41 176	41 396	41 650	18.7
Poland[a,b]	476 625	366 958	371 591	363 160	371 588	348 172	372 530	361 626	337 450	329 697	-30.8
Portugal	44 134	45 927	49 693	48 531	49 089	52 019	50 386	52 633	55 743	57 882	31.2
Romania[b]	194 826	135 660	130 160	127 086	125 597						-35.5
Russian Federation[a]	2 372 300				1 660 000	1 590 420	1 495 920				-36.9
Slovakia	59 606	52 432	48 892	46 000	43 051	44 470	44 877	45 157	44 723	44 875	-24.7
Slovenia	13 935										
Spain	226 057	233 257	242 275	250 076	242 279	252 958	240 312	257 713	268 479	260 965	15.4
Sweden	55 074	56 481	54 859	54 879	59 233	58 521	63 001	57 088	58 142	56 458	2.5
Switzerland	44 409	46 285	45 990	43 566	42 928	43 805	44 212	43 549	44 814	44 826	0.9
Ukraine	703 792	586 478	577 916	504 222	406 838	380 928	346 768	322 907	314 445		-55.3
United Kingdom	583 479	587 203	572 770	558 665	555 752	547 194	566 383	541 686	543 729	531 529	-8.9
United States of America	4 912 947	4 861 223	4 960 930	5 072 932	5 168 817	5 219 811	5 403 200	5 478 677	5 489 730	5 558 150	13.1
European Community	3 325 370	3 350 679	3 277 471	3 208 244	3 220 706	3 258 070	3 332 937	3 272 091	3 316 966	3 270 520	-1.6

[a] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[b] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

Table B.5. **CO_2 emissions from fuel combustion, 1990-1999 (Gigagrams and percentage change)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	265 220	267 477	270 003	273 139	276 695	288 689	298 498	305 943	322 086	326 378	23.1
Austria	46 685	51 068	46 162	45 827	46 933	48 704	50 028	50 906	50 174	50 658	8.5
Belarus											
Belgium[a]	104 190	111 144	111 197	109 127	113 511	114 595	117 995	113 867	117 170	111 175	6.7
Bulgaria[b]	95 495	61 170	55 064	57 678	54 239	56 609	61 215	53 560	48 515	44 513	-53.4
Canada	421 613	411 468	425 723	422 945	436 057	447 878	459 857	471 074	480 525	491 410	16.6
Croatia											
Czech Republic[a]	160 073	148 807	135 629	130 661	123 631	124 647	129 516	133 925	124 486	117 501	-26.6
Denmark	51 676	61 873	56 382	58 104	61 983	58 924	72 153	62 374	58 232	54 561	5.6
Estonia[a]	37 184	36 342	27 453	21 786	22 668	20 638	21 216	20 362	18 890	16 425	-55.8
Finland	53 893	53 070	51 259	52 035	58 331	55 882	61 220	59 815	57 404	56 781	5.4
France	355 945	381 154	374 696	354 007	348 976	355 365	370 381	363 863	384 549	379 591	6.6
Germany	986 833	951 137	902 918	893 006	877 157	877 107	899 777	868 049	862 099	832 036	-15.7
Greece	76 474	76 395	78 054	78 177	80 047	79 778	82 012	86 503	91 235	90 471	18.3
Hungary[b]	80 089	65 255	58 636	58 754	57 046	57 567	58 174	56 552	54 621	56 490	-29.5
Iceland	1 631	1 592	1 722	1 779	1 750	1 774	1 862	1 881	1 874	1 930	18.4
Ireland	29 577	30 231	30 857	30 472	31 775	32 389	33 626	35 736	37 707	39 603	33.9
Italy	408 019	407 400	406 032	397 968	392 455	417 137	412 407	414 886	427 801	429 759	5.3
Japan	1 052 782	1 072 706	1 085 118	1 064 565	1 133 429	1 138 556	1 153 571	1 150 775	1 109 504	1 147 945	9.0
Latvia	22 963	17 907	14 638	12 770	11 757	10 018	9 364	8 465	8 051	7 385	-67.8
Liechtenstein											
Lithuania[a]	37 332					14 800	15 800	15 800	13 982		-62.5
Luxembourg[a]	12 133				11 520	9 109				4 740	-60.9
Monaco	98	113	120	121	123	120	126	125	121	129	32.3
Netherlands	158 536	164 860	163 430	165 890	166 750	174 224	182 021	178 266	177 395	170 619	7.6
New Zealand	22 398	22 670	24 449	23 735	23 847	23 842	24 809	26 824	25 399	26 984	20.5

Norway	26 366	25 777	26 484	27 474	28 815	28 513	31 315	31 579	31 737	31 728	20.3
Poland[a,b]	462 998	357 661	360 927	353 842	362 083	337 942	363 499	350 876	326 858	318 963	-31.1
Portugal	39 558	41 373	45 290	44 003	44 534	47 260	45 688	47 359	50 584	52 449	32.6
Romania[b]	185 575	130 465	125 498	122 644	121 327						-34.6
Russian Federation[a]	2 298 900	2 123 000	1 948 000	1 805 000	1 601 100	1 550 000	1 463 000				-36.4
Slovakia	55 724	49 487	45 731	42 907	39 802	41 062	41 628	41 803	40 089	40 783	-26.8
Slovenia	13 294										
Spain	205 673	213 404	223 785	211 499	222 031	232 254	220 255	236 250	245 598	256 801	24.9
Sweden	51 278	52 196	50 434	50 281	54 360	53 390	57 791	52 114	53 311	51 722	0.9
Switzerland	39 673	41 854	41 846	39 611	38 789	39 764	40 554	39 894	41 140	41 104	3.6
Ukraine	672 075	557 747	549 439	484 956	390 118	365 333	331 976	307 091	298 489		-55.6
United Kingdom	556 554	565 039	551 387	537 695	531 563	525 044	543 636	520 790	523 367	509 917	-8.4
United States of America	4 835 689	4 782 409	4 881 065	4 986 700	5 078 408	5 121 263	5 302 961	5 374 913	5 386 762	5 453 088	12.8
European Community	3 133 575	3 169 569	3 100 933	3 037 289	3 041 926	3 078 842	3 155 827	3 096 202	3 138 599	3 089 406	-1.4

[a] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[b] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988[a]) and Romania (1989).

Table B.6. **CO_2 emissions from transport, 1990-1999 (Gigagrams and percentage change)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	59 219	58 576	60 025	60 758	62 301	64 792	66 831	68 396	68 426	69 503	17.4
Austria	13 570	15 059	15 054	15 104	16 163	15 432	15 380	15 830	16 809	17 643	30.0
Belarus											
Belgium[a]	20 569	21 141	22 490	22 515	22 248	22 524	22 786	24 334	23 162	22 611	9.9
Bulgaria[b]	12 639	6 525	6 435	7 444	6 547	6 845	6 306	5 315	6 475	6 212	-50.9
Canada	145 831	140 612	144 676	147 836	155 251	159 470	163 962	170 373	174 291	179 332	23.0
Croatia											
Czech Republic[c]	7 959	6 869	8 143	8 314	8 260	8 912	9 896	11 392	10 779	12 016	51.0
Denmark	10 356	10 873	10 993	11 192	11 634	11 765	11 990	12 098	12 419	12 156	17.4
Estonia[a]	2 656	2 385	1 432	1 607	1 786	1 700	1 534	1 097	1 236	1 204	-54.7
Finland	12 475	11 610	11 583	10 963	11 366	11 125	10 994	11 531	12 299	12 734	2.1
France	119 156	121 771	126 258	126 280	127 572	129 657	131 182	133 599	135 766	138 822	16.5
Germany	162 281	165 953	171 661	176 532	172 899	176 468	176 942	177 689	180 894	186 110	14.7
Greece	18 039	19 051	19 251	19 403	19 446	19 435	19 925	20 523	22 149	22 908	27.0
Hungary[b]	7 741	7 383	7 189	7 141	7 212	7 001	6 612	7 741	8 381	9 568	23.6
Iceland	721	727	729	738	743	749	735	776	781	819	13.6
Ireland	4 961	5 206	5 625	5 591	5 829	6 306	7 063	7 684	8 768	9 734	96.2
Italy	101 769	104 347	108 680	110 415	110 310	112 086	113 145	114 841	120 571	121 165	19.1
Japan	204 665	214 152	219 398	221 689	232 679	239 522	246 016	250 351	250 286	253 670	23.9
Latvia	6 011	3 267	2 931	2 667	2 229	1 749	1 612	2 178	2 126	2 087	-65.3
Liechtenstein											
Lithuania[a]	5 791					3 500	3 800	4 100	3 754		-35.2
Luxembourg[a]	2 625				3 685	3 426				1 337	-49.1
Monaco	40	46	52	48	50	48	48	48	46	49	21.9
Netherlands	29 095	28 550	29 830	30 460	30 800	32 030	33 821	33 060	33 999	34 700	19.3
New Zealand	8 660	8 662	9 047	9 458	10 160	10 869	10 989	11 242	11 435	11 729	35.4

Norway	11 077	11 037	11 269	11 885	11 672	12 123	12 793	12 962	13 348	13 957	26.0
Poland[a,b]	28 238	27 815	30 475	27 675	29 533	25 285	28 098	26 662	28 127	31 382	11.1
Portugal	11 221	11 948	12 931	13 512	13 900	14 459	15 263	16 084	17 585	18 650	66.2
Romania[b]	7 893	7 521	6 834	7 498	7 744						-1.9
Russian Federation[a]											
Slovakia	5 070	4 426	4 116	4 029	4 189	4 216	4 164	4 591	4 950	4 821	-4.9
Slovenia	3 179										
Spain	58 004	60 804	64 695	61 161	65 756	66 747	71 874	72 176	79 637	83 922	44.7
Sweden	18 736	18 807	19 032	18 237	18 561	18 993	18 834	18 966	19 481	19 886	6.1
Switzerland	14 144	14 668	14 983	13 933	14 117	13 815	13 885	14 462	14 691	15 316	8.3
Ukraine											
United Kingdom	116 581	116 051	117 504	118 683	119 042	117 940	122 571	123 631	122 767	121 576	4.3
United States of America	1 422 585	1 386 224	1 425 797	1 456 126	1 499 862	1 537 308	1 571 796	1 588 138	1 615 079	1 677 714	17.9
European Community	697 683	712 095	736 492	740 970	749 211	756 149	773 011	783 278	809 112	824 974	18.2

[a] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[b] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

Table B.7. **CO_2 emissions from industrial processes, 1990-1999 (Gigagrams and percentage change)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	6 654	6 330	6 211	6 520	7 277	7 018	7 110	7 139	7 823	7 898	18.7
Austria	12 747	12 209	11 142	11 301	11 938	12 193	11 683	12 769	12 008	11 944	-6.3
Belarus											
Belgium[a]	9 140	9 547	9 666	9 706	10 332	10 707	11 261	7 373	12 817	14 531	59.0
Bulgaria[b]	8 361	4 873	4 118	4 181	4 939	5 723	5 610	5 182	3 762	3 927	-53.0
Canada	32 608	33 394	33 004	34 773	35 671	36 338	37 943	38 282	38 604	39 391	20.8
Croatia											
Czech Republic[a]	5 417	4 335	4 591	4 190	4 114	4 170	2 479	2 498	2 661	2 362	-56.4
Denmark	1 005	1 178	1 300	1 311	1 318	1 311	1 388	1 539	1 436	1 402	39.4
Estonia[a]	613	614	313	193	215	222	206	354	342	565	-7.9
Finland	1 175	1 037	937	793	836	836	863	947	921	1 114	-5.2
France	21 254	19 421	17 940	17 180	18 228	18 703	17 441	17 610	18 045	17 194	-19.1
Germany	27 668	24 814	25 389	25 262	26 954	26 630	24 844	25 475	26 165	26 475	-4.3
Greece	7 686	7 599	7 510	7 733	7 260	7 840	8 033	8 092	7 942	7 813	1.7
Hungary[b]	3 587	1 382	1 168	1 318	1 397	1 438	1 548	1 587	2 152	2 709	-24.5
Iceland	390	357	361	408	409	425	424	483	510	656	68.1
Ireland	1 931	1 954	1 965	1 878	2 141	2 041	2 003	2 264	2 250	2 222	15.1
Italy	24 720	24 377	24 623	20 470	19 679	20 358	20 006	20 212	21 108	21 538	-12.9
Japan	58 795	60 382	60 999	60 333	61 303	61 237	61 079	59 501	53 956	53 233	-9.5
Latvia	563	584	286	89	154	127	185	153	236	161	-71.4
Liechtenstein											
Lithuania[a]	2 203					400	400	400	2 525		12.7
Luxembourg[a]	585				447	406				671	14.6

Monaco											
Netherlands	1 901	1 500	1 270	1 210	1 440	1 570	1 700	1 727	1 768	1 784	-6 2
New Zealand	2 386	2 511	2 647	2 770	2 672	2 737	2 742	2 627	2 755	2 869	20 2
Norway	6 444	5 926	6 028	6 396	6 801	7 093	7 180	7 276	7 414	7 218	12 0
Poland[ab]	13 574	9 247	10 603	9 248	9 422	10 144	8 938	10 664	10 487	10 609	-21 8
Portugal	4 133	4 104	3 937	4 067	4 032	4 246	4 192	4 755	4 619	4 742	14 7
Romania[b]	9 244	5 188	4 655	4 435	4 263						-53 9
Russian Federation[a]	46 300	43 603	35 702	29 802	24 000	23 080	18 920				-59 1
Slovakia	3 882	2 945	3 161	3 093	3 249	3 408	3 249	3 354	3 505	3 548	-8 6
Slovenia	641										
Spain	16 667	16 123	14 671	13 976	16 139	17 171	16 835	17 653	18 886	20 297	21 8
Sweden	3 410	3 909	4 099	4 235	4 383	4 680	4 783	4 602	4 423	4 325	26 8
Switzerland	3 363	3 034	2 736	2 548	2 731	2 622	2 220	2 207	2 204	2 246	-33 2
Ukraine	31 717	28 731	28 477	19 266	16 720	15 595	14 792	15 816	15 956		-49 7
United Kingdom	14 123	11 769	11 159	11 294	12 474	12 524	13 341	12 616	12 397	13 480	-4 6
United States of America	54 577	53 319	53 656	55 282	58 219	61 917	63 293	66 063	66 984	67 401	23 5
European Community	149 000	140 982	137 048	131 854	137 602	141 082	138 607	138 269	139 852	142 214	-4 6

[a] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[b] In accordance with decision 9/CP 2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).

Table B.8. **Anthropogenic CO_2 emissions and removals from land-use change and forestry,[a] 1990-1999 (Gigagrams and percentage change)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	69 929	43 431	39 774	37 299	35 734	35 434	37 497	35 775	42 180	40 768	-41.7
Austria	-9 215	-13 504	-8 656	-8 982	-7 862	-7 254	-5 385	-7 633	-7 633	-7 633	-17.2
Belarus											
Belgium[b]	-2 057	-2 057	2 057	-2 057	-2 057	-2 057	-2 057	-977	-1 845	-1 845	-10.3
Bulgaria[c]	-4 657	-7 880	-7 636	-7 022	-6 974	-7 520	-7 190	-5 852	-6 233	-6 608	41.9
Canada	-61 498	-64 472	-47 931	-38 994	-34 571	-17 646	-23 620	-19 056	-21 457	-20 278	-67.0
Croatia											
Czech Republic[b]	-2 281	-5 027	-6 041	-5 643	-3 943	-5 454	-4 479	-4 639	-3 757	-3 401	49.1
Denmark	-916	-918	-921	-924	-928	-931	-941	-951	-964	-976	6.6
Estonia	-11 317				-11 125	-13 266		7 993	-3 356	-8 107	-28.4
Finland	-23 798	-38 207	-31 894	-29 116	-17 259	-14 687	-21 032	-12 637	-9 713	-10 821	-54.5
France	-59 617	-56 488	-61 246	-65 865	-67 495	-65 151	-67 197	-68 090	-68 024	-68 995	15.7
Germany	-33 719	-33 719	-33 719	-33 719	-33 719	-33 430	-33 430	-33 430	-33 430	-33 430	-0.9
Greece	1 249	434	1 929	1 437	1 153	-370	-71	-272	2 417	194	-84.4
Hungary[c]	-3 097	-3 239	-3 823	-4 697	-4 820	-4 797	-3 931	-4 205	-4 411	-4 500	45.3
Iceland											
Ireland	-5 020	-5 176	-5 376	-5 586	-5 724	-5 913	-6 065	-6 271	-6 493	-6 734	34.1
Italy	-20 221	-16 492	-16 858	-15 777	-15 456	-15 860	-16 854	-15 019	-15 295	-16 099	-20.4
Japan	-83 882	-83 843	-85 541	-90 057	-93 516	-96 676					15.3
Latvia	-10 826	-10 826	-10 875	-10 868	-10 846	-10 484	-10 496	-10 508	-10 508	-10 665	-1.5
Liechtenstein	-22										
Lithuania[b]	-8 848					2 800	2 800	2 800	-7 712		-12.8
Luxembourg[b]	-295				-295	-295				-295	0.0
Monaco											
Netherlands	-1 500	-1 600	-1 600	-1 600	-1 700	-1 700	-1 700	-1 700	-1 700	-1 700	13.3
New Zealand	-21 638	-20 480	-18 417	-16 476	-15 835	-16 307	-16 618	-18 214	-20 959	-22 118	2.2

Norway	-9 590	-11 700	-13 250	-13 510	-15 680	-13 640	-17 611	-16 499	-17 588	-17 742	85.0
Poland[b]	-34 746	-42 758	-40 815	-40 179	-41 953	-42 880	-42 617	-40 521	-29 820	-43 506	25.2
Portugal	-3 994	-4 119	-4 244	-4 370	-4 495	-4 620	-4 638	-4 638	-4 674	-4 692	17.5
Romania[c]	-2 925	-6 590	-6 590	-6 590	-6 590						125.3
Russian Federation[b]	-392 000				-568 000	-840 000	-840 000				114.3
Slovakia	-2 426	-2 426	-2 426	-2 426	-3 235	-3 235	-4 233	-4 085	-1 683	-2 627	8.3
Slovenia	-2 294										
Spain	-29 252	-29 252	-29 252	-29 252	-29 252	-29 252	-29 252	-29 252	-29 252	-29 252	0.0
Sweden	-20 292	-29 328	-23 353	-29 332	-26 305	-21 293	-22 269	-27 288	-24 331	-24 305	19.8
Switzerland	-3 188	-3 257	-3 355	-4 325	-4 340	-4 310	-4 460	-4 636	-4 570	-4 226	32.6
Ukraine	-52 107	-52 964	-52 658	-52 917	-52 721	-52 940	-66 151	-68 806	-68 708		31.9
United Kingdom	8 791	8 869	8 327	6 610	5 384	4 687	4 969	4 773	4 996	4 732	-46.2
United States of America	-1 059 900	-1 046 800	-995 900	-1 024 200	-1 028 500	-1 019 000	-1 021 400	-981 900	-983 400	-990 400	-6.6
European Community	-199 850	-221 908	-209 145	-218 829	-205 731	-197 831	-205 973	-204 354	-195 368	-200 984	0.6

[a] Estimates for *land-use change and forestry* are as reported in accordance with the present IPCC Guidelines for National Greenhouse Gas Inventories. In this table negative values in gigagrams indicate net removal of CO_2 from the *land-use change and forestry* sector; negative values in percentage represent a decrease in removals in relation to the year 1990 and positive values indicate an increase in removals, except for Australia and the United Kingdom where the negative values in percentage change indicate less emissions or greater removals.

[b] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[c] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).

Table B.9. Total anthropogenic CH_4 emissions, 1990-1999 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	5 597	5 495	5 490	5 422	5 345	5 427	5 465	5 523	5 619	5 603	0.1
Austria	538	527	514	508	500	489	481	470	459	454	-15.5
Belarus											
Belgium[a]	612	614	613	624	598	597	597	584	526	523	-14.5
Bulgaria[a]	1 334	1 353	1 247	1 121	818	888	828	704	654	483	-63.8
Canada	3 498	3 612	3 748	3 853	4 016	4 173	4 225	4 225	4 274	4 284	22.5
Croatia											
Czech Republic[a]	779	711	668	633	613	600	573	562	529	517	-33.6
Denmark	279	281	281	286	281	279	279	272	287	269	-3.6
Estonia[a]	105	102	91	80	80	68	63	103	101	120	14.5
Finland	292	275	256	238	222	221	213	204	193	187	-36.0
France	3 109	3 165	3 179	3 209	3 212	3 265	3 220	2 967	2 939	2 841	-8.6
Germany	5 571	5 013	4 654	4 267	4 022	3 898	3 570	3 477	3 353	3 271	-41.3
Greece	450	451	463	465	473	476	490	497	519	513	14.0
Hungary[b]	664	914	808	792	776	792	815	790	680	683	2.8
Iceland	14	14	14	14	14	14	14	14	14	14	-3.0
Ireland	611	619	620	624	627	634	646	655	649	634	3.7
Italy	1 915	1 930	1 849	1 838	1 894	1 915	1 924	1 963	1 963	1 965	2.6
Japan	1 449	1 439	1 431	1 424	1 410	1 400	1 375	1 318	1 298	1 287	-11.2
Latvia	194	190	157	112	98	99	93	102	125	120	-38.3
Liechtenstein	1										
Lithuania[a]	378					299	285	302	177		-53.2
Luxembourg[a]	24				22	22				23	-3.7
Monaco	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	17.8
Netherlands	1 293	1 309	1 256	1 225	1 203	1 172	1 163	1 103	1 062	1 034	-20.1
New Zealand	1 677	1 642	1 612	1 614	1 624	1 626	1 624	1 595	1 598	1 600	-4.6

Norway	312	316	322	328	335	337	341	343	338	337	8.2
Poland[a]	3 141	2 589	2 474	2 432	2 467	2 457	2 252	2 279	2 335	2 250	-28.4
Portugal	613	614	607	593	605	604	603	603	605	604	-1.5
Romania[b]	2 357	1 734	1 603	1 523	1 461						-38.0
Russian Federation[a]	26 500				19 610	19 064	18 544				-30.0
Slovakia	322	294	268	250	244	248	254	241	223	221	-31.4
Slovenia	176										
Spain	1 654	1 681	1 723	1 749	1 796	1 843	1 936	2 028	1 935	2 145	29.7
Sweden	324	321	328	325	320	316	316	311	304	294	-9.4
Switzerland	242	243	240	238	234	233	230	227	222	216	-10.9
Ukraine	9 402	8 654	8 348	7 932	7 570	7 295	7 059	6 606	6 457		-31.3
United Kingdom	3 670	3 621	3 528	3 380	3 068	3 053	2 984	2 891	2 763	2 631	-28.3
United States of America	30 689	30 606	30 883	30 389	30 784	30 978	30 379	30 096	29 754	29 504	-3.9
European Community	20 955	20 444	19 895	19 354	18 842	18 782	18 447	18 051	17 636	17 445	-16.7

[a] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[b] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).

Table B.10. CH_4 fugitive fuel emissions, 1990-1999 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	1 085	1 054	1 102	1 059	1 035	1 126	1 144	1 142	1 220	1 159	6.8
Austria	4	5	4	5	5	5	6	5	6	6	32.0
Belarus											
Belgium[a]	35	38	39	41	43	34	36	36	40	40	14.0
Bulgaria[b]	259	216	205	196	192	220	221	182	171	129	-50.2
Canada	1 338	1 405	1 511	1 573	1 656	1 753	1 869	1 865	1 839	1 828	36.6
Croatia											
Czech Republic[a]	394	356	342	333	317	315	301	298	281	258	-34.6
Denmark	12	14	14	14	17	17	17	18	15	16	27.9
Estonia								32	29	27	
Finland	1	1	1	1	1	1	2	1	2	1	15.6
France	311	304	307	314	310	310	263	231	230	217	-30.1
Germany	1 561	1 472	1 463	1 349	1 219	1 197	1 115	1 074	973	927	-40.6
Greece	44	45	47	47	48	49	51	50	52	54	21.4
Hungary[b]	448	453	383	385	379	398	425	407	400	379	-15.5
Iceland											
Ireland	6	6	6	5	5	5	5	5	4	4	-29.0
Italy	343	337	328	314	299	287	288	283	285	282	-17.7
Japan	160	165	167	166	161	160	162	130	129	132	-17.2
Latvia	53	51	36	25	18	22	19	23	23	15	-71.9
Liechtenstein											
Lithuania[a]	26								17		-33.4
Luxembourg[a]	2				2	2				2	26.5
Monaco											
Netherlands	179	188	163	158	169	174	178	156	146	144	-19.5
New Zealand	27	25	25	24	27	33	45	36	42	44	62.5

Norway	14	15	20	23	25	25	25	28	25	24	71.2
Poland[b]	1 248	925	793	877	896	927	943	937	822	777	-37.7
Portugal	5	5	5	4	4	2	2	2	4	4	-15.0
Romania[b]	1 416	975	917	897	847						-40.2
Russian Federation[a]	18 900				13 300	13 050	12 860				-32.0
Slovakia	68	62	55	57	57	60	63	64	62	62	-9.3
Slovenia	51										
Spain	158	156	159	153	153	165	171	198	198	216	37.3
Sweden	0.003	0.003	0.002	0.002	0.004	0.003	0.003	0.002	0.003	0.003	0.0
Switzerland	15	14	14	14	13	13	13	13	12	12	-15.4
Ukraine	6 220	5 541	5 315	5 014	4 727	4 624	4 562	4 318	4 387		-29.5
United Kingdom	1 360	1 362	1 326	1 234	964	1 007	963	928	847	766	-43.7
United States of America	11 250	11 126	11 026	10 611	10 503	10 630	10 437	10 257	10 089	9 787	-13.0
European Community	4 021	3 933	3 863	3 641	3 238	3 255	3 098	2 991	2 800	2 676	-33.4

[a] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[b] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).

Table B.11. CH_4 emissions from agriculture, 1990-1999 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	3 433	3 439	3 380	3 338	3 289	3 290	3 292	3 334	3 334	3 358	-2.2
Austria	217	214	207	205	203	197	194	192	192	188	-13.6
Belarus											
Belgium[a]	381	377	376	382	353	357	353	349	337	335	-12.0
Bulgaria[b]	273	233	189	147	123	119	112	107	114	115	-57.7
Canada	980	988	1 011	1 016	1 065	1 099	1 108	1 111	1 097	1 090	11.2
Croatia											
Czech Republic[a]	204	186	169	148	139	139	134	129	121	121	-41.0
Denmark	193	192	190	195	187	187	186	182	184	168	-12.7
Estonia[a]	60	60	55	47	46	34	30	35	30	26	-57.6
Finland	96	92	90	90	90	86	87	88	86	84	-12.8
France	1 631	1 604	1 570	1 558	1 556	1 564	1 565	1 548	1 535	1 535	-5.9
Germany	1 902	1 679	1 599	1 572	1 570	1 559	1 557	1 512	1 499	1 469	-22.8
Greece	263	263	261	261	263	264	266	270	272	272	3.4
Hungary[b]	208	168	144	127	121	118	116	111	118	116	-44.4
Iceland	12	12	11	11	11	11	11	11	11	11	-5.3
Ireland	514	519	521	524	527	534	545	557	564	552	7.4
Italy	913	919	889	880	886	903	895	908	900	903	-1.1
Japan	758	763	768	776	771	756	736	713	697	681	-10.1
Latvia	111	107	89	55	46	45	42	39	36	31	-71.8
Liechtenstein											
Lithuania[a]	181					95	89	88	83		-54.1
Luxembourg[a]	18				17	17				17	-4.2
Monaco											
Netherlands	505	517	505	497	483	476	463	446	432	423	-16.2
New Zealand	1 492	1 458	1 435	1 433	1 439	1 438	1 424	1 412	1 414	1 416	-5.1

Norway	101	102	104	103	106	107	108	108	110	110	8.5
Poland[a,b]	863	773	704	656	646	615	591	598	582	509	-41.0
Portugal	301	298	287	269	278	278	274	274	272	267	-11.4
Romania[b]	635	488	431	370	357						-43.7
Russian Federation[a]	5 060	4 920	4 740	4 510	3 830	3 676	3 362				-33.6
Slovakia	135	118	103	88	83	85	81	75	67	64	-52.6
Slovenia	44										
Spain	940	938	951	948	953	956	999	1 016	883	1 040	10.7
Sweden	165	160	167	170	170	167	167	167	163	161	-2.6
Switzerland	151	153	151	150	147	147	145	144	140	135	-10.9
Ukraine	2 254	2 200	2 118	2 006	1 938	1 774	1 608	1 414	1 196		-47.0
United Kingdom	1 037	1 022	1 017	1 011	1 018	1 007	1 016	1 004	1 007	1 002	-3.4
United States of America	7 862	7 881	8 101	7 936	8 408	8 446	8 205	8 208	8 259	8 232	4.7
European Community	9 077	8 812	8 647	8 577	8 553	8 551	8 585	8 531	8 357	8 431	-7.1

[a] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[b] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

Table B.12. CH_4 **emissions from waste, 1990-1999 (Gigagrams and percentage change)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	708	724	732	748	745	729	734	745	737	761	7.5
Austria	295	290	287	281	276	270	265	258	248	248	-16.1
Belarus											
Belgium[a]	174	177	181	183	185	190	192	189	134	129	-25.9
Bulgaria[b]	791	896	846	770	494	540	486	406	362	233	-70.6
Canada	900	930	950	973	984	988	991	1 015	1 037	1 060	17.8
Croatia											
Czech Republic[a]	105	105	104	100	101	101	97	97	98	111	5.7
Denmark	62	64	65	65	65	63	62	59	55	53	-15.3
Estonia[a]	42	39	35	31	31	32	31	33	36	62	46.5
Finland	175	163	149	131	114	111	101	92	83	79	-55.0
France	892	950	1 005	1 045	1 081	1 124	1 114	931	913	831	-6.9
Germany	1 894	1 695	1 453	1 216	1 114	1 029	792	794	794	794	-58.1
Greece	122	126	130	135	140	145	149	153	158	165	34.6
Hungary[b]		257	256	256	255	255	254	253	128	155	
Iceland	2	2	2	2	2	2	2	2	2	2	13.8
Ireland	85	86	88	89	90	91	92	88	76	72	-14.7
Italy	577	595	549	558	622	637	654	682	687	687	19.1
Japan	394	383	376	372	370	374	369	366	369	368	-6.7
Latvia	19	23	23	24	25	26	26	28	53	64	230.6
Liechtenstein											
Lithuania[a]	166					139	130	145	68		-58.7
Luxembourg[a]	4				3	3				3	-19.7
Monaco	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	7.3
Netherlands	568	562	546	528	510	481	478	465	448	432	-24.0
New Zealand	143	144	137	140	140	138	138	129	126	124	-12.9

Norway	182	185	184	187	188	190	192	191	187	188	3.5
Poland[a][b]	966	855	941	833	855	848	652	677	870	905	-6.3
Portugal	283	288	292	297	300	302	306	309	308	313	10.4
Romania	241	229	227	227	228						-5.4
Russian Federation	1 940	1 950	1 950	1 950	1 950	1 770	1 770				-8.8
Slovakia	98	96	94	90	91	91	100	91	85	86	-12.5
Slovenia	76										
Spain	496	522	547	587	629	666	711	757	798	835	68.3
Sweden	122	124	124	120	115	114	113	111	109	102	-15.9
Switzerland	69	68	68	67	67	67	66	65	64	63	-8.8
Ukraine	892	890	891	892	889	881	873	859	859		-3.7
United Kingdom	1 150	1 111	1 066	1 018	981	946	907	862	811	752	-34.6
United States of America	10 879	10 897	11 034	11 138	11 165	11 175	11 002	10 943	10 748	10 803	-0.7
European Community	6 901	6 757	6 486	6 257	6 225	6 171	5 939	5 753	5 676	5 550	-19.6

[a] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[b] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).

Table B.13. **Total anthropogenic N_2O emissions, 1990-1999 (Gigagrams and percentage change)**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	73.8	74.1	75.0	77.3	78.9	80.4	81.6	86.9	90.5	95.6	29.5
Austria	6.6	6.8	6.9	7.1	7.3	7.3	7.3	7.3	7.4	7.4	12.1
Belarus											
Belgium[a]	31.0	31.1	30.2	31.0	34.8	36.1	36.6	32.8	40.3	40.2	29.7
Bulgaria[b]	81.4	68.4	59.2	53.8	52.4	55.2	57.1	52.6	47.4	61.2	-24.8
Canada	172.0	169.0	171.7	175.7	192.4	197.1	199.2	194.0	183.7	174.9	1.7
Croatia											
Czech Republic[a]	25.8	23.4	22.5	21.2	21.5	21.6	29.1	28.7	27.1	26.2	1.4
Denmark	35.5	35.2	33.1	33.5	32.8	32.6	32.2	30.9	31.2	31.0	-12.7
Estonia[a]	2.3	2.3	1.7	1.4	1.3	1.2	1.2	0.7	1.3	1.2	-49.7
Finland	27.1	25.5	23.5	24.1	24.5	25.1	25.3	26.0	25.5	25.0	-7.9
France	305.9	305.4	294.4	281.0	286.7	292.3	294.8	298.2	272.3	253.9	-17.0
Germany	213.6	208.6	214.6	205.6	206.6	209.2	214.7	200.7	159.7	141.1	-33.9
Greece	33.5	33.1	32.9	31.9	32.3	31.3	32.6	33.0	33.6	33.1	-1.2
Hungary[b]	12.9	4.3	5.0	4.9	5.4	4.9	5.1	4.4	35.0	36.3	181.1
Iceland	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	14.7
Ireland	29.3	28.8	28.6	29.1	30.0	30.7	31.2	30.8	32.5	32.7	11.6
Italy	128.1	132.7	130.5	120.8	127.4	131.9	130.4	134.2	125.6	128.7	0.4
Japan	67.0	65.4	65.8	65.3	69.2	70.3	73.6	75.9	72.0	53.3	-20.4
Latvia	11.0	7.7	7.2	5.1	4.4	3.7	3.8	3.8	4.0	4.0	-64.0
Liechtenstein	0.1										
Lithuania[a]	13.2								11.1		-15.5
Luxembourg[a]	0.6				0.7	0.7				0.3	-54.3
Monaco	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	107.7
Netherlands	63.7	66.9	69.3	68.9	70.8	72.2	71.8	73.7	72.8	73.2	14.8
New Zealand	38.2	37.8	37.9	38.3	38.9	39.0	38.8	38.9	39.5	40.0	4.6

Norway	16.7	16.2	14.0	15.2	15.5	15.7	15.7	15.6	16.5	17.1	2.4
Poland[a,b]	70.0	52.0	50.0	49.8	50.0	54.0	53.9	54.0	51.6	75.1	7.3
Portugal	24.6	26.3	25.8	25.3	25.0	26.2	26.3	26.3	27.3	27.7	12.4
Romania[b]	66.3	24.8	26.9	26.2	25.0						-62.3
Russian Federation[a]	225.7				127.6	139.0	132.0				-41.5
Slovakia	19.0	16.1	14.1	11.8	11.9	12.5	10.3	10.3	9.8	8.8	-53.6
Slovenia	5.1										
Spain	133.0	130.7	127.8	119.9	127.1	124.4	139.5	131.9	133.2	142.0	6.8
Sweden	23.1	22.4	21.9	22.4	23.0	22.2	22.9	22.8	23.7	23.4	1.5
Switzerland	11.3	11.4	11.5	11.6	11.6	11.6	11.6	11.5	11.7	11.6	2.4
Ukraine	58.0	51.3	38.3	24.2	20.1	15.2	14.9	15.6	15.8		-72.8
United Kingdom	216.0	209.7	187.4	175.7	190.1	181.6	188.3	194.0	187.9	138.4	-35.9
United States of America	1 280.2	1 304.2	1 340.0	1 341.6	1 429.5	1 393.3	1 424.4	1 432.6	1 399.0	1 395.4	9.0
European Community	1 271.7	1 263.9	1 233.9	1 187.0	1 218.9	1 223.9	1 254.4	1 243.8	1 167.1	1 091.9	-14.1

[a] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[b] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

Table B.14. N_2O emissions from fuel combustion, 1990-1999 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	7.9	8.6	9.8	10.8	11.7	12.7	13.5	14.4	15.2	15.9	102.5
Austria	1.9	2.2	2.3	2.4	2.7	2.8	2.7	2.7	2.8	2.7	44.7
Belarus											
Belgium[a]	7.2	7.6	7.7	7.9	8.3	8.4	6.4	7.2	7.3	7.3	2.1
Bulgaria[b]	15.3	10.2	9.8	9.7	9.4	9.7	13.0	9.7	8.5	7.9	-48.2
Canada	27.0	27.3	29.3	31.4	34.0	35.1	35.2	35.9	36.0	36.5	35.2
Croatia											
Czech Republic[a]	20.0	18.5	17.1	16.6	16.6	16.4	4.2	4.3	4.5	4.5	-77.7
Denmark	2.4	2.8	2.8	2.9	3.1	3.1	3.6	3.5	3.6	3.6	46.8
Estonia[a]	1.4	1.4	1.0	0.9	0.8	0.8	0.8	0.7	0.1	0.1	-90.6
Finland	5.5	5.7	5.4	5.6	5.9	6.3	6.9	7.9	8.0	7.9	43.4
France	12.4	14.0	14.2	14.0	14.5	15.5	17.1	17.6	19.0	19.7	59.1
Germany	36.6	37.6	37.6	38.6	38.6	40.6	41.7	39.7	39.7	39.1	6.8
Greece	9.9	10.0	10.7	10.2	10.5	10.4	11.0	11.4	11.8	11.5	15.8
Hungary[b]	8.4	2.6	3.3	3.4	3.6	3.3	3.4	2.7	0.5	0.5	-94.3
Iceland[c]	0.04	0.04	0.04	0.04	0.04	0.07	0.07	0.09	0.09	0.12	203.7
Ireland	3.1	3.2	3.3	3.3	3.6	3.6	3.8	4.1	4.5	4.9	57.6
Italy	28.4	28.7	27.9	27.6	26.4	28.7	29.4	29.6	22.1	24.7	-13.1
Japan	19.3	20.2	20.7	20.9	21.9	23.6	24.0	24.7	24.5	25.3	31.6
Latvia	1.1	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.3	-67.3
Liechtenstein											
Lithuania[a]	1.0								0.2		-80.0
Luxembourg[a]	0.1				0.2	0.2				0.2	84.5
Monaco	0.003	0.003	0.003	0.004	0.004	0.005	0.006	0.006	0.007	0.008	130.1
Netherlands	5.2	7.0	7.9	7.9	7.6	8.2	7.7	7.8	6.8	6.5	25.1
New Zealand	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	27.6

Norway	1.0	1.1	1.1	1.2	1.4	1.5	1.7	1.9	2.0	2.3	120.8
Poland[a,b]	7.0	6.3	6.0	6.6	6.9	6.7	7.2	7.1	7.4	7.4	5.9
Portugal	3.1	3.1	3.1	3.2	3.2	3.3	3.4	3.5	3.7	3.8	23.9
Romania[b]	16.6	11.6	13.3	12.9	12.6						-24.0
Russian Federation[a]	17.4	16.3	14.2	13.5	11.1	11.1	9.8				-43.9
Slovakia	0.8	0.7	0.7	0.6	0.7	0.7	0.8	0.8	0.9	0.9	5.2
Slovenia	0.5										
Spain	13.8	14.4	15.1	14.1	15.6	16.8	16.0	17.0	18.3	19.4	40.5
Sweden	5.7	5.7	5.5	5.7	6.2	5.9	6.6	6.1	6.7	6.7	17.2
Switzerland	1.2	1.4	1.5	1.6	1.8	1.8	1.9	2.0	2.3	2.3	89.0
Ukraine	6.7	0.6	0.8	0.8	0.7	0.7	0.5	0.4	0.4		-94.0
United Kingdom	17.3	17.6	17.8	18.4	19.9	21.2	23.0	24.4	26.1	27.4	58.0
United States of America	219.0	229.1	243.1	253.1	259.9	261.6	258.6	259	256	255	16.4
European Community	153.0	159.0	161.0	162.0	166.0	175.0	180.0	183.0	181.0	185.0	20.9

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[b] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).

Table B.15. N_2O emissions from industrial processes, 1990-1999(Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	1.6	1.5	1.8	1.6	1.4	1.4	1.8	2.0	1.6	2.2	35.3
Austria	0.6	0.6	0.5	0.6	0.6	0.5	0.6	0.6	0.6	0.6	-3.2
Belarus											
Belgium*	11.5	11.2	10.1	10.9	12.6	13.8	15.1	14.5	15.1	14.7	27.7
Bulgaria*	7.8	5.2	4.3	3.7	4.3	6.2	6.3	5.2	3.1	2.4	-69.8
Canada	37.1	34.7	34.6	31.8	37.9	37.1	39.6	34.4	18.8	8.2	-78.0
Croatia											
Czech Republic*	3.3	2.8	3.5	2.7	3.0	3.4	3.3	3.6	3.9	3.2	-2.4
Denmark											
Estonia											
Finland	5.1	4.5	4.0	4.2	4.4	4.5	4.5	4.5	4.3	4.3	-16.9
France	89.6	89.9	83.8	74.9	78.6	81.6	79.9	80.6	53.6	35.8	-60.1
Germany	82.0	83.0	93.0	84.0	81.0	82.0	87.0	74.0	30.0	13.0	-84.1
Greece	2.3	1.9	2.0	1.9	1.8	1.8	2.1	1.8	1.8	1.8	-20.4
Hungary*		0.004	0.003	0.003	0.003	0.003	0.004	0.004	0.003	1.1	
Iceland	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	-25.2
Ireland	3.3	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-21.6
Italy	21.8	23.0	21.3	21.4	20.1	23.1	22.3	22.4	21.9	21.6	-1.0
Japan	23.9	21.9	21.6	21.2	24.0	23.8	26.6	28.1	24.5	4.7	-80.2
Latvia											
Liechtenstein											
Lithuania*	1.4								9.3		562.1
Luxembourg											

Monaco											
Netherlands	31.5	32.3	30.4	30.0	31.6	31.6	31.7	35.0	36.0	36.1	14.7
New Zealand											
Norway	6.7	6.1	4.2	5.0	5.4	5.3	5.2	4.8	5.4	6.1	-8.9
Poland[b]	20.0	13.1	13.0	13.1	14.0	15.8	16.2	15.7	12.9	12.1	-39.7
Portugal	1.9	1.9	2.0	1.6	1.2	2.0	2.0	2.9	2.0	2.0	0.6
Romania[b]	24.4	6.4	6.8	6.5	5.6						-77.1
Russian Federation[a]	3.0				1.2	1.0	1.0				-66.7
Slovakia	1.9	1.8	1.6	1.3	2.1	2.3	0.2	0.3	0.2	0.2	-89.1
Slovenia											
Spain	9.3	8.4	7.1	5.9	7.0	7.4	7.9	7.5	7.0	7.6	-18.3
Sweden	2.8	2.7	2.7	2.7	2.5	2.5	2.4	2.4	2.6	3.1	11.7
Switzerland	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-1.9
Ukraine	22.9	23.1	15.3	7.5	9.1	4.7	7.4	8.5	8.6		-62.6
United Kingdom	94.5	88.5	71.6	61.1	71.5	61.3	65.5	67.0	59.4	11.8	-87.5
United States of America	116.6	119.5	115.9	121.4	128.7	129.7	133.9	123.7	90.8	94.2	-19.2
European Community	356.3	350.5	331.2	301.8	315.4	314.6	323.4	314.8	236.8	155.4	-56.4

[a] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[b] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).

Table B.16. N_2O emissions from agriculture, 1990-1999 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	61.5	62.0	61.3	62.9	63.8	64.2	64.2	68.3	71.3	75.2	22.3
Austria	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.2
Belarus											
Belgium*	10.9	10.9	10.9	10.7	9.8	9.8	10.8	10.8	17.3	17.3	58.9
Bulgaria*	57.4	52.2	44.4	39.8	38.0	38.6	37.1	37.0	35.2	50.4	-12.2
Canada	100.1	98.0	99.8	103.4	109.2	111.5	117.3	117.6	119.0	121.5	21.3
Croatia											
Czech Republic*	2.3	2.0	1.7	1.8	1.8	1.7	20.6	19.3	17.4	17.1	645.2
Denmark	33.1	32.4	30.3	30.6	29.7	29.5	28.5	27.4	27.6	27.4	-17.1
Estonia*	0.9	0.9	0.7	0.5	0.5	0.4	0.4	0.04	1.2	1.0	13.8
Finland	15.9	14.8	13.5	13.8	13.7	13.8	13.4	13.1	12.8	12.3	-22.6
France	181.1	178.5	173.2	168.7	170.3	171.8	174.4	176.6	176.3	175.0	-3.4
Germany	85.0	78.0	74.0	73.0	77.0	76.6	76.0	77.0	80.0	79.0	-7.1
Greece	21.2	21.1	20.0	19.7	19.9	19.1	19.4	19.7	19.7	19.7	-6.8
Hungary*	4.6	1.7	1.6	1.5	1.8	1.6	1.7	1.7	34.5	34.7	661.8
Iceland	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.5	11.5
Ireland	22.9	22.9	22.6	23.1	23.7	24.4	24.8	24.1	25.3	25.2	10.2
Italy	77.6	80.5	80.9	81.3	80.4	79.6	78.3	81.7	81.1	81.9	5.6
Japan	18.0	17.6	17.5	17.3	16.9	16.4	16.1	16.0	15.9	15.8	-12.2
Latvia	9.7	7.0	6.5	4.5	3.8	3.2	3.1	3.2	3.4	3.4	-65.1
Liechtenstein											
Lithuania*	10.8								1.7		-84.7
Luxembourg*	0.5				0.5	0.5					0.0
Monaco											
Netherlands	22.2	22.9	26.2	26.2	26.4	27.6	27.5	25.9	25.1	25.7	15.6
New Zealand	37.1	36.7	36.7	37.2	37.7	37.8	37.6	37.6	38.2	38.7	4.1

Norway	8.6	8.6	8.5	8.5	8.5	8.5	8.4	8.4	8.4	8.3	-3.3
Poland[a]	43.0	32.6	32.0	30.0	30.0	31.4	30.5	31.2	31.2	55.6	29.4
Portugal	18.2	19.9	19.3	19.0	19.0	19.4	19.4	19.6	20.1	20.3	11.4
Romania[b]	25.3	6.7	6.8	6.8	6.8						-73.1
Russian Federation[a]	209.0				130.0	111.0	105.0				-47.5
Slovakia	16.2	13.5	11.8	9.7	9.0	9.4	9.3	9.1	8.6	7.7	-52.4
Slovenia	4.6										
Spain	108.1	106.1	103.6	97.9	102.4	98.3	113.5	105.2	105.7	112.9	4.4
Sweden	14.6	14.0	13.7	14.1	14.3	13.8	13.9	14.3	14.3	13.6	-6.7
Switzerland	9.2	9.2	9.1	9.0	8.9	8.7	8.6	8.5	8.4	8.3	-10.4
Ukraine	28.0	27.4	21.3	15.7	9.6	9.4	5.9	6.5	6.4		-77.1
United Kingdom	109.4	99.9	94.3	92.5	95.0	95.4	96.0	98.9	98.4	95.4	-5.0
United States of America	920.6	931.3	956.2	942.1	1 014.9	978.6	1 005.9	1 023.8	1 025.5	1 019.0	10.7
European Community	714.9	705.7	686.3	674.5	685.4	682.9	699.6	698.1	701.0	702.9	-1.7

[a] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[b] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988), Hungary (average of 1985-1987), Poland (1988) and Romania (1989).

[c] Party indicated the Revised IPCC Guidelines were used for calculation of emissions from agricultural soils and therefore the estimate for 1998-1999 is not comparable with estimates for earlier years.

Table B.17. N_2O emissions from agricultural soils, 1990-1999 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change 1990 to latest reported estimate (%)
Australia	46.9	47.3	46.5	47.7	48.0	47.1	46.7	49.7	52.3	54.6	16.4
Austria	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	-1.2
Belarus											
Belgium[a]	10.9	10.9	10.9	10.7	9.4	9.4	9.4	9.3	11.3	11.3	3.6
Bulgaria[b]	53.9	49.2	41.9	37.8	36.3	37.0	35.6	35.6	33.7	48.8	-9.4
Canada	88.3	86.0	87.4	90.9	96.0	97.9	103.5	103.6	105.2	107.6	22.0
Croatia											
Czech Republic[a]	2.3	2.0	1.7	1.8	1.8	1.7	12.0	11.3	15.9	15.7	582.7
Denmark	31.6	30.8	28.8	29.0	28.1	27.9	27.0	25.9	26.1	26.0	-17.8
Estonia[a]								0.03	1.2	1.0	3 217
Finland	14.1	13.1	11.8	12.1	12.0	12.3	11.9	11.6	11.4	11.0	-22.1
France	170.6	168.2	163.1	158.7	160.3	161.7	164.2	166.5	166.2	165.0	-3.3
Germany	85.0	78.0	74.0	73.0	77.0	76.6	76.0	77.0	80.0	79.0	-7.1
Greece	20.7	20.5	19.5	19.2	19.3	18.5	18.8	19.0	19.0	19.0	-7.8
Hungary[b,c]	4.6	1.7	1.6	1.5	1.8	1.6	1.7	1.7	32.9	33.2	627.1
Iceland	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.5	11.5
Ireland	20.8	20.8	20.5	21.0	21.6	22.2	22.5	21.7	23.0	22.9	10.1
Italy	65.2	68.1	68.6	69.4	68.6	67.4	66.1	68.7	68.4	68.9	5.5
Japan	3.8	3.6	3.6	3.5	3.5	3.3	3.1	3.1	3.1	3.1	-16.8
Latvia	9.7	7.0	6.5	4.5	3.8	3.2	3.1	3.2	2.8	2.9	-70.1
Liechtenstein											
Lithuania									1.7		
Luxembourg[a]	0.5				0.5	0.5					0.0

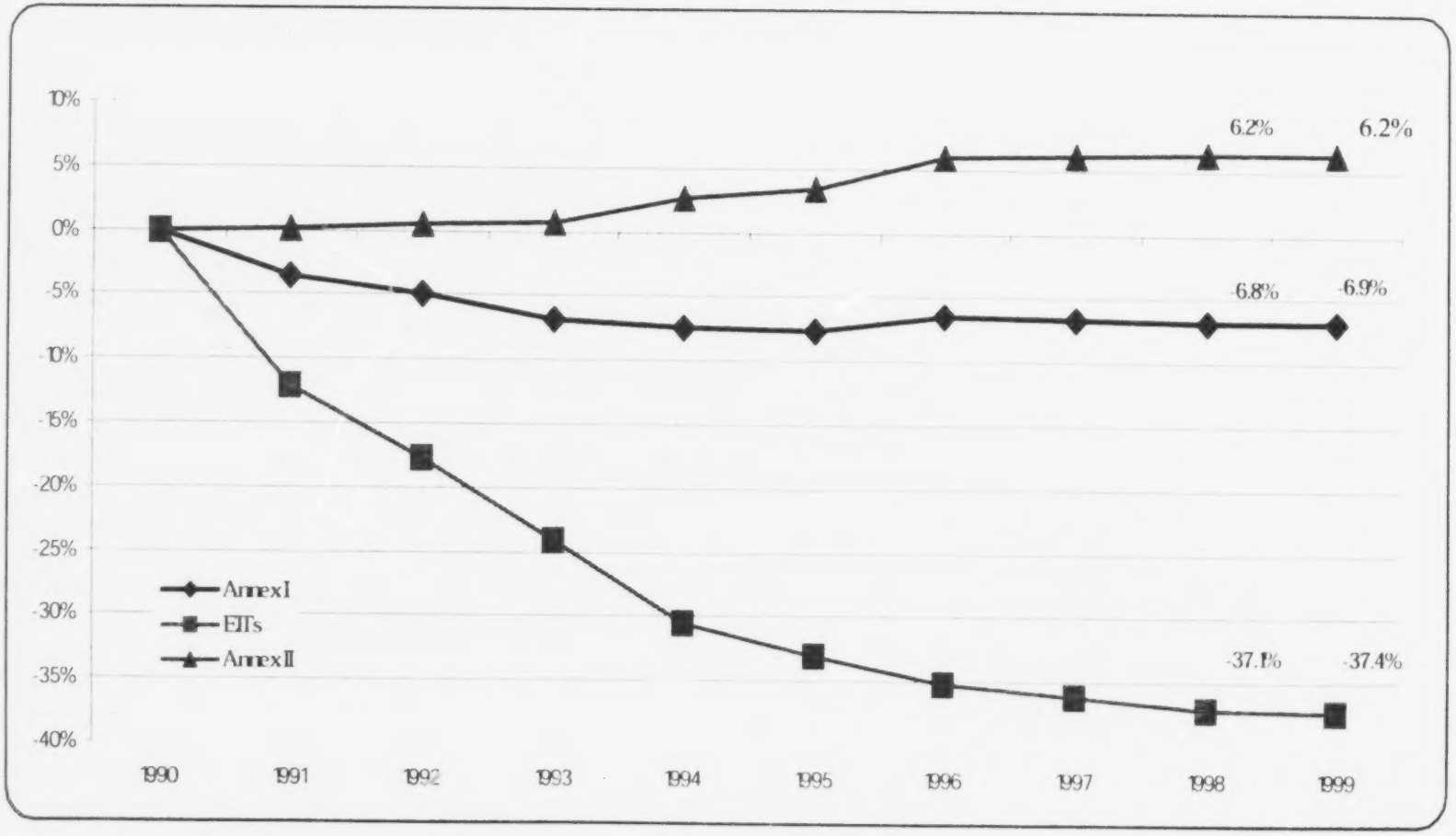
Monaco											
Netherlands	21.5	22.2	25.5	25.4	25.6	26.8	26.8	25.3	24.5	25.0	16.2
New Zealand	36.8	36.4	36.4	36.8	37.3	37.4	37.2	37.2	37.8	38.3	3.9
Norway	8.6	8.6	8.3	8.5	8.3	8.5	8.4	8.4	8.4	8.3	-3.3
Poland[a,b]	43.0	32.5	32.0	29.9	30.0	31.4	30.4	31.2	31.2	35.5	17.5
Portugal	14.8	15.9	15.5	15.2	15.2	15.4	15.4	15.6	16.0	16.1	8.3
Romania	25.1	6.5									-74.0
Russian Federation						111.0	105.0				
Slovakia	12.6	10.2	8.9	7.3	6.7	7.0	7.0	7.1	6.8	6.0	-52.6
Slovenia	4.6										
Spain	58.2	57.6	53.9	46.6	53.5	50.9	61.1	55.3	56.6	59.6	2.4
Sweden	12.2	11.7	11.4	11.9	12.1	11.9	11.9	12.3	12.3	11.7	-4.6
Switzerland	7.8	7.7	7.6	7.6	7.5	7.3	7.3	7.1	7.1	6.9	-10.7
Ukraine											
United Kingdom	95.1	94.6	89.2	87.5	89.9	90.4	90.9	93.9	93.4	90.2	-5.1
United States of America	867.7	876.8	902.2	887.0	959.4	920.5	950.3	967.2	968.7	962.2	10.9
European Community	624.6	616.3	596.3	583.6	596.4	595.2	605.7	605.9	609.8	607.4	-2.8

[a] The trend shown here may not be fully consistent, since data for the entire period were not provided in the latest submission (see table 2 in section II of this document) and different sources of data may have been used.

[b] In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990. For the following Parties their specific base year is presented in this table in lieu of 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

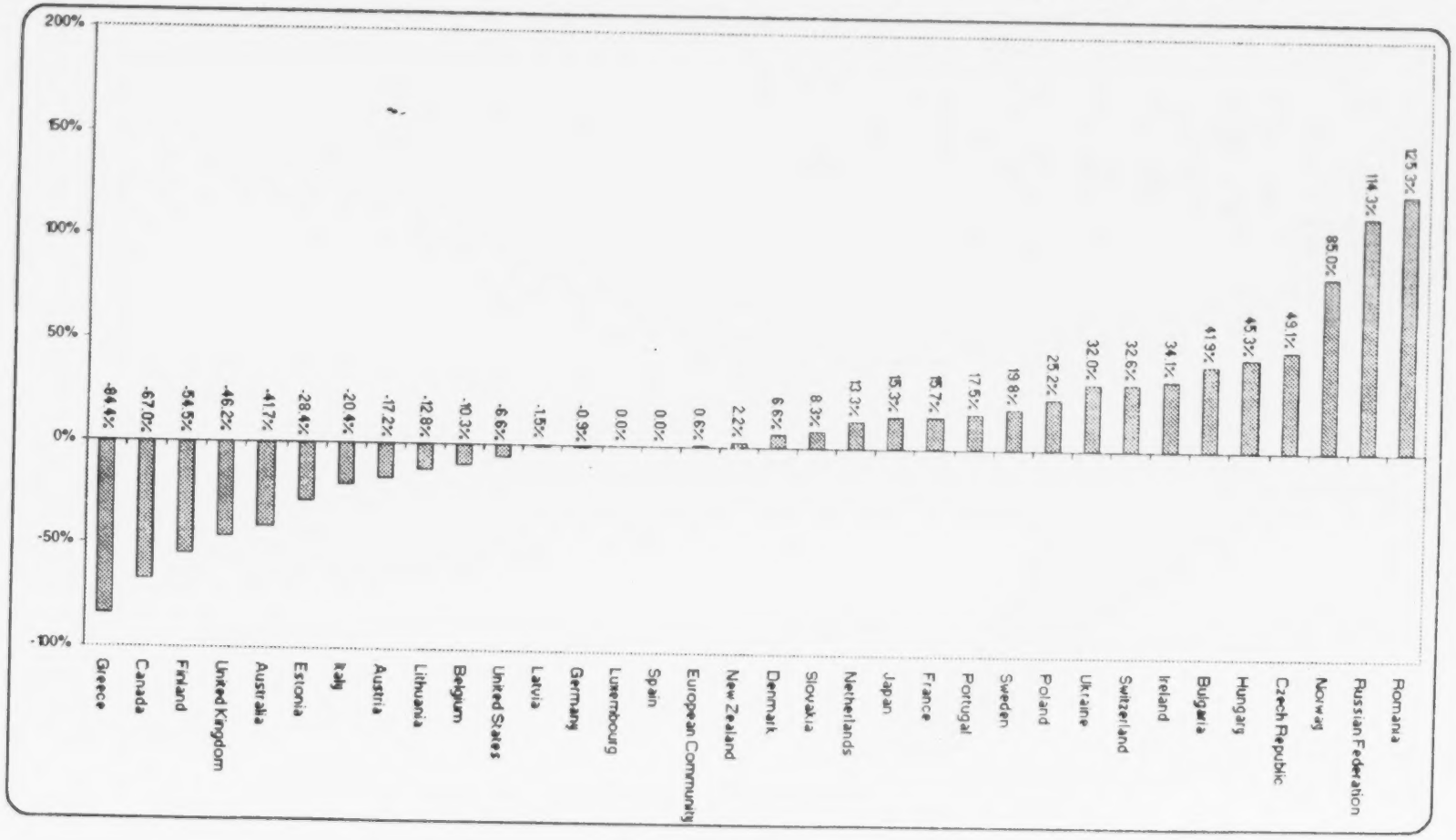
[c] Party indicated that the Revised IPCC Guidelines were used for calculations for the years 1990 and 1998-1999 and therefore emission estimates for these years are not comparable with estimates for the years 1991-1995.

Figure C.1. Trends in GHG emissions, 1990-1999, percentage change relative to 1990*



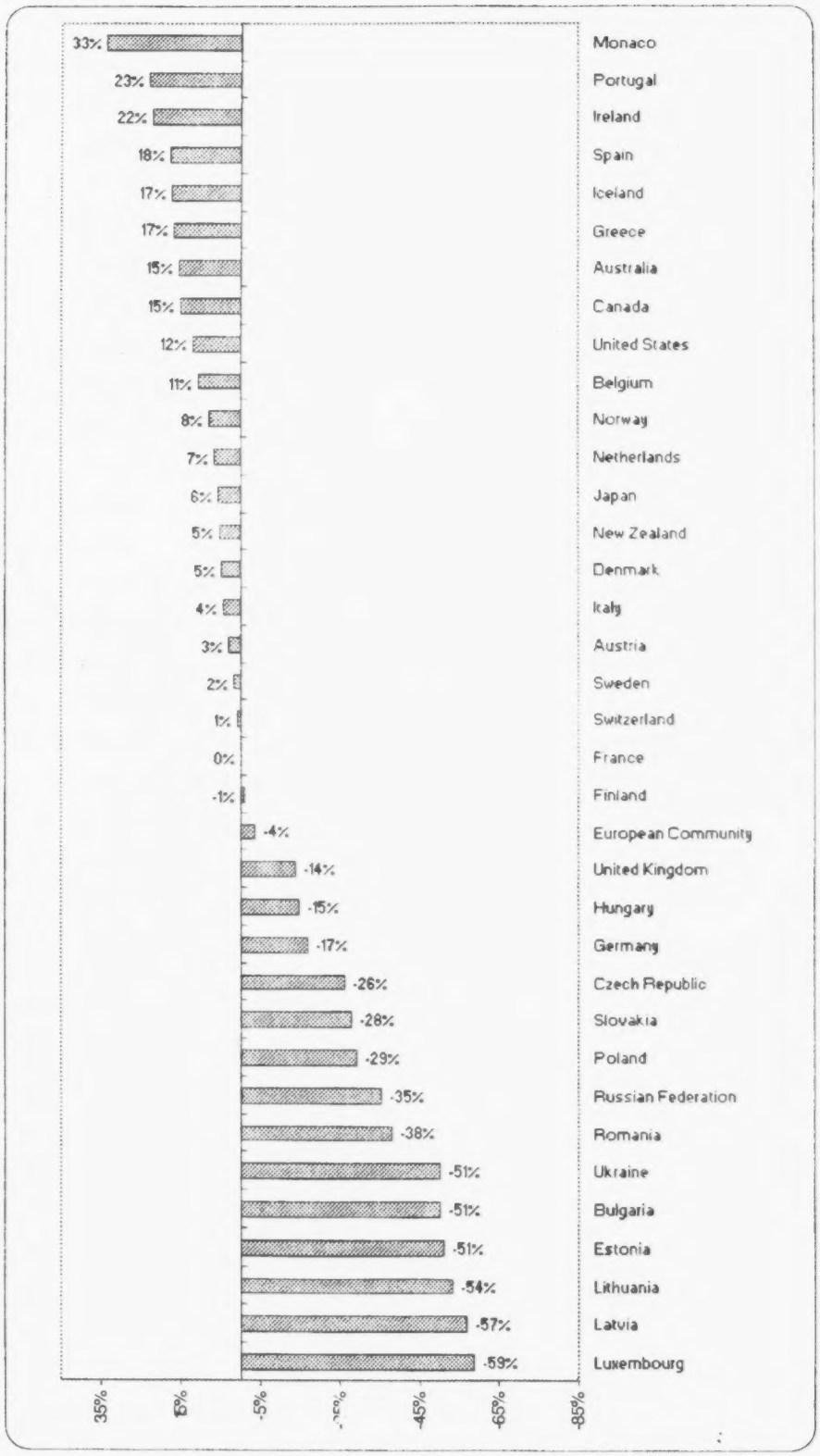
* See explanatory notes on page 88.

Figure C.4. Percentage change in net CO_2 emissions or removals from land-use change and forestry, 1999 relative to 1990[a]



[a] See explanatory notes on page 88.

Figure C.3. Total aggregate GHG emissions of individual Annex I Parties in CO_2 equivalent, percentage change 1999 relative to 1990[a]



[a] See explanatory notes on page 88.

Figure C.2. Total aggregate GHG emissions of individual Annex I Parties in CO_2 equivalent, 1990 and 1999 (Gg)[a]

[a] See explanatory notes on page 88.

Explanatory notes for figures C.1-C.4

Figure C.1

The table contains estimates of the change in Annex I total aggregate emissions for all greenhouse gases (1995 GWPs) on the basis of the data contained in Table B.1. The year 1999 is the latest for which most Parties have reported data. However, for the following Parties the latest year for which data have been reported are: Liechtenstein (1990), Lithuania (1998), Romania (1994), Russian Federation (1996), Slovenia (1990), Ukraine (1998). The data for these years have been used for the years not reported to complete the time series for this figure.

Figure C.2

The table contains estimates of the Annex I Parties aggregate emissions for all greenhouse gases (1995 GWPs) on the basis of the data contained in Table B.1. The European Community as a whole is included in this figure, as well as each of its individual Member States. As data was not reported for 1999 for the following Parties, data for the latest year reported are used in this figure: Lithuania (1998), Romania (1994), Russian Federation (1996), Ukraine (1998). Liechtenstein and Slovenia have only provided data for 1990.

Figure C.3

The table contains estimates of the change in Annex I Parties aggregate emissions for all greenhouse gases (1995 GWPs) on the basis of the data contained in Table B.1. The European Community as a whole is included in this figure, as well as each of its individual Member States. As data was not reported for 1999 for the following Parties, data for the latest year reported are used in this figure: Lithuania (1998), Romania (1994), Russian Federation (1996), Ukraine (1998). Liechtenstein and Slovenia are not shown in this figure as they have only provided data for 1990.

Figure C.4

The table contains estimates of the change in Annex I Parties aggregate emissions for CO2 from land-use change and forestry on the basis of the data contained in Table B.8. The European Community as a whole is included in this figure, as well as each of its individual Member States. As data was not reported for 1999 for the following Parties, data for the latest year reported are used in this figure: Japan (1995), Lithuania (1998), Romania (1994), Russian Federation (1996), Ukraine (1998). Liechtenstein and Slovenia are not shown in this figure as they have only provided data for 1990, and Iceland and Monaco are not shown as they did not provide any estimates for land-use change and forestry.

For Australia and the United Kingdom, negative values correspond to a decrease in net emissions from land-use change and forestry. For other Annex I Parties, positive values indicate an increase in estimated removals by sinks, and negative values indicate a decrease in estimated removals by sinks.